



Technical Report R-97-1
May 1997

Evaluation of Effects of Implementing Day-Use Fees at Corps of Engineers Recreation Areas

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Evaluation of Effects of Implementing Day-Use Fees at Corps of Engineers Recreation Areas

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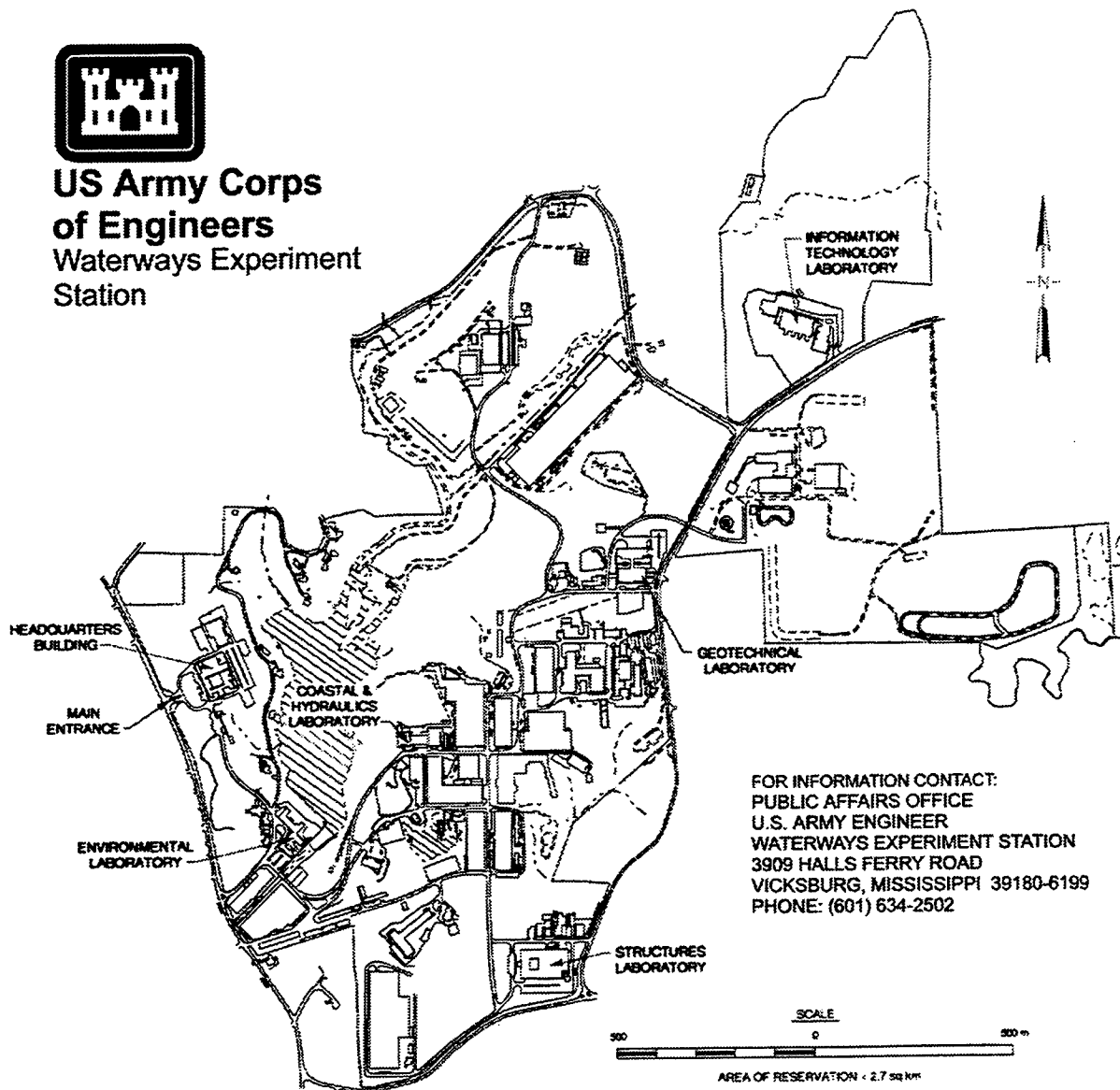
**U.S. Army Corps of Engineers
Waterways Experiment Station
3909 Halls Ferry Road
Vicksburg, MS 39180-6199**

Final report

Approved for public release; distribution is unlimited



**US Army Corps
of Engineers**
Waterways Experiment
Station



Waterways Experiment Station Cataloging-in-Publication Data

Calkin, David E.

Evaluation of effects of implementing day-use fees at Corps of Engineers recreation areas / by David E. Calkin, Jim E. Henderson ; prepared for U.S. Army Corps of Engineers.

101 p. : ill. ; 28 cm. — (Technical report ; R-97-1

Includes bibliographical references.

1. Recreation areas — Costs. 2. United States. — Army. — Corps of Engineers. I. Henderson, Jim E. II. United States. Army. Corps of Engineers. III. U.S. Army Engineer Waterways Experiment Station. IV. Recreation Research Program. V. Series: Technical report (U.S. Army Engineer Waterways Experiment Station) ; R-97-1.

TA7 W34 no.R-97-1

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State University. The survey analysis was conducted by Mr. Dave Calkin and Dr. David Jackson at the University of Montana and by Mr. Henderson at WES.

Oversight for the RRP is provided by a Field Review Group (FRG) with representatives for each of the Corps of Engineers Divisions. Mr. Don Snyder, FRG representative for the North Atlantic Division, was FRG proponent for this work unit. Thanks for cooperation in the surveys at Priest and Truman lakes go to Mr. Sherman Gee, FRG representative for the Ohio River Division; Mr. Donald Dunwoody, FRG representative for the Missouri River Division; Mr. Cliff Reinert, RRP contact for the Nashville District; Mr. Michael Carey, RRP contact for the Kansas City District; and the staffs of the two lakes for helping the surveyors and with all aspects of this work.

This report was prepared by Messrs. David Calkin and Henderson under the general supervision of Mr. H. Roger Hamilton, Chief, RAB; Dr. Robert M. Engler, Chief, Natural Resources Division; and Dr. John Harrison, Director, EL.

At the time of publication of this report, Director of WES was Dr. Robert W. Whalin. Commander was COL Bruce K. Howard, EN.

This report should be cited as follows:

Calkin, D. E., and Henderson, J. E. (1997). "Evaluation of effects of implementing day-use fees at Corps of Engineers recreation areas," Technical Report R-97-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

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Summary

In 1994, the Corps began implementing a system of day-use fees for use of beaches and boat ramps. Previously, fees had been charged only for specialized use day-use facilities such as group picnic shelters or special events. A work unit in the Recreation Research Program entitled "Determining the Effects of Recreation Fees" had been established in 1991 with the objective of identifying the behavior (visitation) and attitudinal impacts of implementing day-use fees at Corps projects.

The work unit used three sources of data to fulfill its primary objective. First, a demand and marketing study was conducted during the summer of 1993 at six Corps projects. To approximate possible effects on visitation and potential revenues, the prefee-implementation study surveyed users' reactions to hypothetical combinations of differently priced day fees and annual passes. This study also assessed visitors' attitudes and perceptions toward charging fees at Corps projects, recreation quality at Corps projects, and finally the importance of and performance on various dimensions of Corps project operation and management. Then, following the implementation of the day-use fee program, the work unit designed a postfee assessment of its effects. Specifically, this assessment surveyed visitation patterns and attitudes toward fees and recreation quality. During the 1996 recreation season, face-to-face surveys were conducted at J. Percy Priest Lake, Tennessee, and at Harry S. Truman Lake, Missouri, which had been two of the project sites included in the prefee surveys. Visitors were surveyed at two day-use areas at both Priest and Truman lakes, Anderson Road and Cook areas and Long Shoal and Shawnee Bend areas, respectively. The third data source was provided by visitation records kept at Priest Lake and Truman Lake. These records were accessed for the years 1993-1996 to detect trends in visitation behavior before and after the implementation of the day-use fee program. Flooding effects on 1993 Truman Lake visitation were considered in the interpretation of these records.

This report will document the methods and procedures as well as current analyses and comparisons of these three data sources. Careful consideration of variations in survey formats, record-keeping methods, and sample populations was used in comparison of these data. This report will discuss findings on levels of support for the day-use fee program, visitor perceptions of recreation quality, and visitation trends at study locations.

A direct comparison of the 1993 and 1996 survey results indicated that at Truman Lake and Priest Lake, the level of support for the day-use fee program had increased. In 1993, respondents at Truman Lake and Priest Lake reported high levels of opposition to the day-use fee program. Over 50 percent of the samples at both locations "agreed" or "strongly agreed" with the statement: "If the Corps charged a day-use fee, I would no longer visit their day-use areas."

- At Truman, comparing the increases at the survey areas to visitation at the project revealed a 16-percent increase at Truman over the 1993 to 1996 period.
- Visits at Shawnee Bend area during this survey period increased by 20 percent over 1994 and was nearly the same (+ 1 percent) compared with 1995. (Since flooding affected the 1993 visitation estimates, 1994 was chosen as the base year for comparison, even though facilities were closed mid-April to June due to high water.)
- Visits at the Long Shoal area increased by 13 percent over 1993.
- At Priest, visitation at the entire project increased by 10 percent when comparing 1993 with 1996.
- At Anderson Road area, visits increased by 2 percent and visitor hours increased by 3 percent.
- At Cook day-use area, visits decreased over that period by 18 percent.

For the two populations (1993 and 1996) of survey respondents, level of support for paying fees has increased. In the demand and marketing study, visitors to both projects exhibited a strong opposition to paying a fee, even a fair fee.

- After 2 years of fees, there is a change in the level of support for fees at the two projects.
- At Priest, there is a modest level of support among visitors for the fee program (mean of 7.71 on a 10-point scale).
- At Truman, the mean score for level of support was of 5.54, near the neutral point.

"Does the level of acceptance or opposition change over time with the implementation of fees?" The answer is "yes," as evidenced at both Priest and Truman. "Will the opposition change to support?" It will not necessarily change.

Quality of recreation experience was reported high for both prefee and from postfee surveys at both projects. It is interesting that quality ratings at Truman were higher than at Priest Lake in the prefee study and the reverse is true in the 1996 study. This may suggest that implementation of day-use fees has impacted

visitors' attitudes toward the quality of the Corps recreation experience at Truman Lake.

Factor analysis was performed and models developed to better understand the important individual and natural resource dimensions that contribute to support for or opposition to the fees and the fee program. Five factors were developed from the perceptions and attitude questions in the survey and identified as follows:

- Cleanliness and maintenance of the project.
- Crowding and behavior of other visitors.
- Availability of developed facilities.
- Project staff activities.
- Natural resources at the project.

All five factors were significant at Truman and four at Priest. The factors and other variables from the survey responses were used to develop ordered probability models that predict support for fees and the fee program and for ratings of recreation quality.

At Truman Lake, satisfaction with staff and posted regulations were significant predictive factors in the models. Also, Truman Lake recreation quality ratings were positively related to attachment or loyalty to the recreation area, the size of the recreating party, and number of visitors who held beliefs that fees provide desirable recreation experiences. Priest Lake recreation quality ratings were also positively associated with preferences for the recreation area, perceptions of recreation fees impacting preferred recreation experiences, the size of the recreating group, high ratings of the project staff, and the posting of regulations. Differential ratings in any of these factors at the two sites would be associated with differential perceptions of the qualities of the two Corps projects.

Comparing visitor characteristics between the 1993 and 1996 survey respondents at Truman revealed the following:

- There was a larger percentage of male visitors.
- Average income has increased.
- Average number of trips per year increased to 21 from 17.

At Priest, the following was revealed.

- Percentage of males has decreased.
- Average age has decreased.
- Average number of trips decreased to 15 from 24.6.

1 Introduction

Implementation of use fees for day-use (i.e., nonovernight use) activities—specifically beach and boat ramp use—began in 1994. As the recreation role of the Corps developed, the Corps was allowed to charge for camping and use of specialized facilities, such as group picnic shelters. There was a prohibition on charging entrance fees and on charging for day-use activities such as sightseeing and use of the water.

In anticipation of day-use fees, a research work unit was initiated entitled “Evaluating the Effects of Recreation Use Fees” under the Recreation Research Program (RRP) in 1991. The objectives of the work unit were to identify and evaluate effects of day-use fee implementation and make recommendations for an efficient and visitor-sensitive fee program for the project manager. Initial products of the work units included a legislative history of fees and bibliography listing (White 1992) of relevant academic and agency literature, and a pilot study of visitor perceptions of fees (Rylander and White 1993).

Background

Interest in being able to charge fees for day use came from a number of sources: legislative bodies looking to generate revenues in times of austere budgets; project managers seeking management tools to discourage spurious or depreciative public use of limited resources; and visitors desiring a better recreation experience, such as heightened security provided. Opposition to day-use fees and concerns about negative aspects of fees came from the same quarters. The public bodies that funded construction and operations of projects opposed charging again for the use of the projects. Some project managers anticipated a hostile reaction to fees by their visitors and saw fee collection as another burden with uncertain benefits. Members of the public viewed the idea of day-use fees as double taxation. The facilities provided in some cases were minimal, and in any event, the costs had already been borne by the visitor in the form of Federal taxes.

The idea of generating revenues from day-use fees was proposed to Congress in a series of legislative proposals by the Corps, beginning in the late 1980s.

These proposals included estimates of varying amounts of revenue potential based on different assumptions of how the fees would be implemented.

Expanding the authority to charge fees for day use was one of the options considered by the Recreation Task Force in 1990, to reduce operations costs (Headquarters, U.S. Army Corps of Engineers (HQUSACE) 1990). The HQUSACE Recreation Task Force was charged to “develop a plan to maintain and enhance public recreation opportunities at Corps projects while reducing the Federal costs for development and operation of recreational facilities.”

The recommendations and proposals of the Task Force regarding the fee collection program included a recommendation to “conduct further demand and marketing studies to determine what additional fees would be feasible and at what level.” Under the RRP work unit, a demand and marketing study was implemented in 1993, prior to Corps day-use fee implementation, to evaluate perceptions, preferences, and willingness to pay day-use fees. During the summer of 1993, in response to the Recreation Task Force recommendation, a survey was undertaken at the request of HQUSACE. The 1993 effort was a demand and marketing study of different fee-pricing structures and an evaluation of visitor acceptance and perceptions of day-use fees and recreation experiences at Corps projects (Reiling, McCarville, and White 1994). As the demand and marketing study results were being compiled in late 1993, HQUSACE announced that the day-use fee policy for the Corps was to be implemented in 1994.

For the day-use fee program, use-fee collection is limited to use fees at swimming beaches (\$1 per person, \$3 maximum per vehicle) and launch fees at boat ramps (\$2 per day). Additionally, annual passes are available that allow unlimited use of day-use areas at all Corps areas across the United States (\$25 per year). Additional discounts are available to senior citizens and disabled visitors through the Golden Age/Golden Access Programs (HQUSACE 1995).

Implementation of the fee program in 1994 and 1995 was no different from any new nationwide management policy implemented at a diversity of natural resource settings—things went better in some places than in others (Summary of Comments on Day-Use Fee Program 1994). To their credit, resource managers at Corps projects successfully implemented the day-use fee program. Successful implementation called on managers’ innovation and skill in such things as devising ways to charge fees at areas where traffic flow was not designed for stopping cars and stopping cars in the congested entrances to popular recreation areas; devising ways to collect fees at remote areas; and handling the increased amounts of money generated from day-use fees. Costs and logistics of preparing for fee collection delayed initiation of fees until late in the 1994 recreation season at some projects. Construction of fee booths and procurement of honor boxes, problems with changing gate attendant contracts to include fee collection, and finding new gate attendants caused further delays and problems (Summary of Comments on Day-Use Fee Program 1994).

Reliance on collection of fees by honor boxes—with the visitor placing the fee in an envelope and taking a fee receipt—produced a response not anticipated in

the "pay/do not pay fee" responses of the demand and marketing study-noncompliance. If the perception that enforcement of the fee policy is minimal or nonexistent, then significant noncompliance with the fee requirement occurs. Dealing with noncompliance was the major problem encountered in 1994 and 1995 (Henderson 1996). Noncompliance by visitors did not reduce their use; they simply did not pay and got away with it.

There was concern that current visitors to Corps recreation areas would be displaced when the Corps began to charge fees for previously free areas. This concern was based on potential opposition to fees. Concern over displacement was heightened after the demand and marketing study findings where approximately half of the respondents indicated they would not visit the area if a fee were implemented. When fees were implemented in 1994, visitation did not generally decrease at fee areas (Natural Resource Management System (NRMS) 1994). At some areas, visitation increased due to such things as increased security with gate attendants present at the site. Adverse reactions to fees such as depreciative behavior were limited.

It was conjectured that visitors may not want to pay a fee and are displaced to other nonfee areas at the project or are displaced off the project. Boaters may go to a nonfee boat ramp at a marina or use less-maintained facilities. Just because visitation did not decrease does not mean that visitors were not displaced. Visitors may now visit due to perceptions of increased security or improved facilities (whether or not improvements were made even without the fees). The increase of new postfee visitors may mask displacement of visitors that did not want to pay a fee. Since visitation did not decrease with the implementation of fees, concerns about investigating displacement became secondary to evaluating the effects of the fee program on visitation and perceptions of visitors.

In 1995, the RRP Field Review Group recommended that a follow-up survey of visitor reaction to the day-use fee program be implemented in 1996. This present study, conducted after 2 years of day-use fee collection, would allow a prefee and postfee comparison visitor behavior (visitation) and of attitudes, motivations, and perceptions. Survey planning and the development of a survey instrument were completed in the spring of 1996. During the recreation season of 1996, face-to-face surveys were conducted at Harry S. Truman Reservoir, U.S. Army Engineer District, Kansas City, and J. Percy Priest Reservoir, U.S. Army Engineer District, Nashville.

This report is a study of the visitor use of day-use areas after the 1994 implementation of day-use fees and compares these findings to the study completed in 1993. The purpose of this study is to identify visitor perceptions, attitudes, recreation use, and demographic characteristics that impact their acceptance of day-use fees. These results are compared with the results of the demand and marketing study of 1993 to determine what effect the implementation of day-use fees has had on the Corps' recreation visitors. Results of this study could help managers identify the importance visitors place on specific aspects of their recreation experience and manage these aspects accordingly.

Further, this study characterizes those individuals that place a high or low value on the recreation experience provided by the Corps.

Organization of Report

The remainder of the report is organized into five chapters. Chapter 2 presents study procedures including the selection of study areas, sampling procedures, and sampling issues and problems. In Chapter 3, a profile of visitors in the sample population is developed for both survey locations. Chapter 4 is a discussion of the development and results of the models to predict visitor acceptance of day-use fees as well as models predicting visitor recreation quality ratings. Chapter 5 is a comparison between behavior and perceptions of visitors in 1993 and the behavior and perceptions of visitors in 1996. Chapter 6 is a summary of the effects of implementation of the day-use fee program.

2 Study Procedures

Selection of Study Areas

A decision was made to concentrate study efforts at two of the six Corps reservoirs involved in the 1993 demand and marketing study. Project personnel responsible for the day-use fee program were contacted in December of 1995 to obtain information concerning their projects experiences with the implementation of day-use fees. There was a desire to have two projects with diverse characteristics and experiences in day-use fee collection represented in the study.

Fee implementation discussions with field personnel indicated that the projects can be put into three distinct groups based on certain attributes (Burnsville is not included due to lack of day-use fee collection by 1996.)

Group 1 - J. Percy Priest and Strom Thurmond

J. Percy Priest and Strom Thurmond projects both have 2 years experience with day-use fee collection at both swimming beaches and boat ramps. The primary method of collection is attended gates. Of the six projects, Priest and Thurman ranked 3 and 2, respectively (1 is maximum), in support or acceptance to fees. Managers have used attended gates to address management concerns such as safety and security. Managers have expressed visitor acceptance of user fees (visitors have impression of paying for added services).

Group 2 - Mendocino and Truman

Staff at Mendocino and Truman projects have less experience with fee collection than Priest and Thurmond. The primary method of collection is iron ranger. These projects ranked in the middle (4 and 5, respectively) in support of fees. Managers have expressed no management issues that are affected by day-use fees. Both have expressed strong visitor resentment (visitors have impression of paying for same facility that was previously free).

Group 3 - Canyon

The Canyon project has limited experience with fees; collecting is done at boat ramps associated with camping areas only. Full-scale day-use fee implementation started in March 1996. Acceptance of fee rank is 1. Management hopes to address severe problems with security, gang activity, overcrowding, and alcohol and drug abuse. This project experiences a large ethnic visitation (approximately 60-percent Hispanic).

Based on this information, Truman Reservoir and Priest Reservoir were chosen as the survey locations. Both reservoirs had 2 years experience in the collection of day-use fees. Truman used honor boxes as the sole method of collection, while Priest Lake used attended gates as the primary method of collection with limited honor box usage. Truman Lake is located midway between Kansas City and Springfield, MO; the metropolitan areas of either lie 90 miles¹ from Truman Lake. Priest Lake is located in a fairly urban area, approximately 10 miles from downtown Nashville. Truman Lake had a large percentage of boater visitation with limited experience in fee collection at beach areas, while Priest Lake had concentrated fee collection efforts at large developed beach areas.

In the 1993 demand and marketing study, both lakes ranked in the middle of the six lakes in measures of acceptance of day-use fees. The sample population from Priest Lake had higher acceptance of day-use fees than the population at Truman Lake (the Priest Lake population ranked fourth of the six reservoirs that participated in the 1993 study in agreement with the statement "I should not pay a fee to visit Corps of Engineers day-use areas" and "If the Corps charged a day-use fee, I would no longer visit their day-use areas"; the Truman Lake population ranked third in their agreement with both statements). Discussions of the implementation of fees with the project personnel clearly indicated that Truman Lake had experienced strong negative reaction from many of the visitors, while Priest Lake had reported relatively few problems.

Sampling Plan

The study used face-to-face interviews of recreation visitors at Truman and Priest. At Truman, surveys were conducted at Shawnee Bend and Long Shoal day-use areas. At Priest, Anderson Road and Cook day-use areas were surveyed. A copy of the survey instrument is included in Appendix A. The variables from the survey questions are discussed in Chapters 3 and 4. Surveying at Truman was split into two periods—2 weeks prior to Memorial Day and from the Fourth of July. Priest was surveyed from Memorial Day to the Fourth of July.

¹ To convert miles (U.S. statute) to kilometers, multiply by 1.609347.

The study population of interest was recreation visitors at Corps of Engineers' day-use areas where user fees are currently being charged. The desired sample size for the study was 400 observations for each of the two reservoirs (Cochran 1977). After the editing of the survey data, 404 observations remained for the Truman Lake population with 398 observations for the Priest Lake population.

Each reservoir was sampled for 4 weeks in the summer of 1996 with two survey personnel conducting the face-to-face interviews. Boat ramp visitors were intercepted in the parking lots as they prepared to leave the project for the day. Interviews with beach visitors were conducted at the beach areas. Sampling effort was based on relative visitation characteristics of the day-use areas as estimated by project managers and best available data from the project and the NRMS database (NRMS 1995).

Survey Issues and Problems

Every effort was made to use random sampling blocks and obtain representative user populations. However, due to issues such as visitation characteristics, honor box compliance rates, language barriers, and sample size requirements, some concessions were made that may have affected the survey findings. The following is a brief summary of survey issues and problems and a brief discussion of the potential bias that may have been created.

Truman Lake (boat ramps)

Visitor surveys were conducted with boat ramp users who had purchased annual passes or had day-use fee receipts displayed. Visitors who had not complied with the fees or who had not properly displayed the fee receipt were intentionally avoided to limit conflict with survey personnel. Visitor compliance with the fee program was relatively high with many visitors having purchased annual passes (36 percent). Compliance rates appeared to be higher during weekdays than weekends. It can be assumed that those visitors not complying with the fee program have a more negative impression of the fee program than the survey average.

Truman Lake rangers conduct numerous checks for compliance of the day-use areas. At boat ramp parking lots, vehicles without evidence of fee compliance are issued courtesy notices, and license plate numbers are recorded. If more than three instances of noncompliance occur, a citation is issued.

Truman Lake (beach area)

The first full year of fee collection at Truman Lake's beach areas was 1996. High reservoir levels shortened the swimming beach recreation seasons during the previous 2 years, 1994 and 1995, and limited the fee collection efforts. In the

1996 recreation season, compliance levels were initially quite low with compliance rates improving as the summer progressed. High water delayed the opening of the beach areas during the first sampling period. During the second sampling period, compliance levels were typically in the 30- to 50-percent range unless rangers were stationed at the fee collection boxes. A decision was made to concentrate sampling effort during those periods with ranger presence to avoid conflict of sampling a high level of visitors not complying with the fee program. Rangers were stationed at the beach areas on weekends only, so the sample overrepresents weekend versus weekday visitors. Additionally, ranger patrols were more frequent at the Shawnee Bend day-use area than at Long Shoal. Due to these issues, swimming beach visitors may be underrepresented in the sample relative to boat ramp visitors for the Truman Lake population.

Because visitors were unfamiliar with day-use fees at swimming beaches at Truman Lake, rangers issued courtesy notices and recorded license plate numbers. There were no citations, however, at beaches in 1996.

Priest Lake (boat ramps)

Sampling of boat ramp users was quite limited due to several issues. At Anderson Road boat ramp, honor boxes were used for fee collection. Compliance rates were low, typically below 30 percent. Monitoring of compliance and issuance of courtesy notices and ticketing were limited. The limited number of surveys obtained from the Anderson Road boat ramp can be expected to have a bias towards acceptance of user fees (those visitors who do not approve of visitor fees would be less likely to have paid the day-use fees). The boat ramp at Cook day-use area was inside the attended gate; however, a free boat ramp was provided just outside the attended gate. At no time were more than three vehicles with boat trailers present at the fee boat ramp parking lot during the survey periods. The effort to obtain surveys from this limited user group was determined to be prohibitive, and no surveys were obtained at the Cook boat ramp.

Priest Lake (beach areas)

There is a high level of non-English speaking Hispanic visitors to Priest Lake beaches, particularly Anderson Road. Due to the language barrier, these visitors are underrepresented in the sample.

In the initial sample design, a beach area with an honor box collection, Seven Points, was to be included in the sample. Due to limited visitation and low levels of compliance, a decision was made to not include this area in the sample.

3 Visitor Profiles

This chapter includes summary statistics of the survey population including visitation characteristics, sociodemographic characteristics, and respondent attitudes and perceptions of the areas and of the costs of recreating.

Visitation Characteristics

A summary of the survey population visitation characteristics for Truman and Priest lakes is provided in Table 1; variable names are in parentheses. The most obvious difference between the two samples is that 77.6 percent of the Truman Lake sample was involved in boating activities, while only 7 percent of the Priest Lake sample was involved in boating activities. Survey respondents at Truman Lake have more familiarity with the lake than their counterparts at Priest Lake. Of those surveyed at Truman Lake, 8.6 percent of the visitors were first-time users with an average number of years of visiting of 10.17, averaging 21.29 visits per year. At Priest, 11.3 percent of the respondents were first time visitors with an average number of years of visiting of 6.92, averaging 15.09 visits per year. The average party size for the Truman Lake population is 3.14 versus 4.52 for the Priest population, which is expected given the high percentage of boaters at Truman versus Priest.

Management at Truman has placed a high priority on encouraging annual pass purchases to ease honor box collection efforts. This effort is evidenced in the statistics, with 36 percent of the respondents at Truman holding annual passes. Management at Priest Lake has not promoted the sale of annual passes as aggressively as Truman due to the ease of collecting fees at attended gates. As a result, only 5.3 percent of the respondents at Priest Lake hold annual passes. Additionally, respondents at Truman Lake were more likely to have visited other lakes where day-use fees have been charged than their counterparts at Priest Lake (42.5 percent versus 32.2 percent).

Respondents at Truman Lake, on average, traveled further than respondents at Priest Lake, 84 versus 39 miles, which is expected due to the rural nature of Truman Lake and the proximity of a major metropolitan area to Priest Lake. Reported one-way travel distances ranged up to 2,500 miles.

Table 1 Visitation Characteristics		
	Truman	Priest
First visit to project? (FRSVST)	8.6%	11.3%
Years visited project? (YRSVST)	10.17	6.92
Annual visits (ANNVST)	21.29	15.09
Party size (PTYSZ)	3.14	4.52
Travel distance, miles (TRVDIS)	84.22	39.00
Purchased an annual pass? (ANNPAS)	36.0%	5.3%
Visited other lakes that charge fees? (OTRLKS)	42.5%	32.2%
Other fee lakes managed by: (OTROPR)	135 (79.4%)	93 (74.4%)
a) Corps		
b) Other public agency	23 (13.5%)	23 (18.4%)
c) Private	10 (5.9%)	1 (0.8%)
d) Do not know	2 (1.2%)	8 (6.4%)
Party composition (PTYCOM)	211 (52.9%)	184 (46.2%)
a) Family		
b) Friends	92 (23.1%)	64 (16.1%)
c) Friends and family	49 (12.3%)	115 (29.1%)
d) Alone	47 (11.8%)	28 (7.0%)
e) Organized group	0	5 (1.3%)
f) Other	0	2 (0.5%)
Main recreation activity (MNACT)	88 (21.9%)	306 (76.9%)
a) Swimming		
b) Fishing from shore	0	4 (1.0%)
c) Picnicking	0	19 (4.85%)
d) Hiking	0	0
e) Relaxing	1 (0.2%)	41 (10.3%)
f) Sightseeing	1 (0.2%)	0
g) Fishing from boat	255 (63.4%)	3 (0.8%)
h) Pleasure boating	46 (11.4%)	7 (1.8%)
i) Water-skiing	1 (0.2%)	1 (0.35%)
j) Sailing/windsurfing	2 (0.5%)	0
k) Jet-skiing	4 (1.0%)	14 (3.5%)
l) Other	4 (1.0%)	3 (0.8%)

While it is likely that a reported "one-way travel distance" of 250 miles is conceivable as a primary destination for fishing, boating, or even picnicking, it is unlikely that many people travel a thousand miles or more to use a beach or boat ramp; the visitor would have made the trip whether or not the project was there. They are likely en route to another destination.

When looking at average distances traveled, these longer distances for non-primary destination trips inflate the mean travel distances. In evaluating travel distances, as in a travel cost-benefit analysis, some decisions are usually made on the area constituting the market area, in an effort to determine whether the project is the primary destination of the visitor. In developing the Regional Recreation Demand Model, using data from 28 projects (Nashville, Little Rock, and Sacramento Districts), Ward et al. (1996) found that 90 percent of the day-use visitation came from within 125 miles of the projects. Using that information, Priest and Truman data were analyzed considering percentage of visits and travel distances. For Priest, 91.2 percent of all visits were from distances of 30 miles or less. Ninety-five (95.5) percent of the respondents lived 60 miles or less from the project. With 95 percent of visitors from within 60 miles, this area can be considered Priest's market area. The remaining visitors at Priest came from distances of 180 or more miles. At Truman, there is no "natural break" in the frequency (such as the 60- to 180-mile gap in Priest) for the Truman visitors. The ninetieth percentile (90.8%) of visitation corresponds to a travel distance of 175 miles. The 125-mile criterion includes 85.9 percent of the visitation. To include 95 percent of the visits, the market area must be extended to 220 miles.

The differences between Truman and Priest visitation patterns are, as stated, mostly attributed to the relative proximity of the projects to population centers. Truman is about 100 miles from Kansas City and Springfield, while Priest is virtually within the city limits of Nashville.

Reanalyzing the Truman travel distances to include observations that are within 175 miles and then 125 miles shows that mean travel distances are 63.5 and 58.3 miles, respectively (Table 2). For Priest, a market area of 125 miles (95 percent of visitation) has a mean of 12.9 miles, and a 30-mile limit has a mean of 10.8 miles.

Table 2			
Mean Travel Distances Under Different Market Areas			
Market Areas	30-Mile	125-Mile	175-Mile
Truman		58.3(%)	63.5
Priest	10.8	12.9	

Sociodemographic Characteristics

Sociodemographic characteristics are summarized in Table 3. Respondent average age at Truman Lake was 44.9 with 74 percent of the respondents being males. Average household size was 2.96 with an average education level of 13.36 years. Of those surveyed, 3 percent of the respondents at Truman Lake could be characterized as minority and average household income was \$49,750. Respondents at Priest Lake were, on average, younger (34.72 years), with a higher percentage of females represented in the sample (54 percent), larger household size (3.51), less education (13.21 years), higher minority representation (11.2 percent), and lower incomes (\$42,069) than respondents at Truman Lake. Certainly some of these differences are a result of the disparity of the sample population of boaters at Truman Lake versus the boater sample population at Priest Lake.

Table 3		
Sociodemographic Characteristics		
	Truman	Priest
AGE	44.90	34.72
GENDER (1 = Female; 0 = Male)	0.26	0.54
Household size (HSEHLD)	2.96	3.51
Years of education (EDUCAT)	13.36	13.21
Member of ethnic group (ETHNIC)	0.030	0.112
Annual income (INCOME)	49,750	42,069
Employment (WORK)		
a) Working full time	297 (73.9%)	278 (70.9%)
b) Working part time	11 (2.7%)	36 (9.2%)
c) Semiretired, working part time	17 (4.2%)	5 (1.3%)
d) Fully retired	55 (13.7%)	13 (3.3%)
e) Unpaid homemaker	7 (1.7%)	38 (9.7%)
f) Student	7 (1.7%)	14 (3.6%)
g) Not presently employed	8 (2.0%)	8 (2.0%)

4 Attitudes, Perceptions, and Behavior of Respondents

Attitudes, perceptions, and behavior of Corps visitors in response to the implementation of fees are examined in this chapter. The survey questions about perceptions of fees, models developed for support of the fee program and for perceptions of recreation quality, and comments on the fee program are presented.

Attitudes and Perceptions

Table 4 provides the summary statistics of responses to questions relating to area preference, costs associated with recreating, and feelings on where day-use fees should be directed. Additionally, a summary of specific projects that respondents would like to see fee revenues spent for is included. (Actual comments are included in Appendix B).

The questions regarding the perceptions and importance of fees and fee programs CSTIMP, FEEIMP, and FEEPRO were coded on a five-point scale with 5 equivalent to strongly agree, 4-agree, 3-no opinion, 2-disagree, and 1-strongly disagree.

Respondents at Truman and Priest lakes have similar responses toward statements regarding costs. Respondents at Truman Lake have an average rating value of 3.22 to the statement "Travel cost and travel time are an important factor in determining which recreation areas I visit," while respondents at Priest Lake have an average value of 3.15. Respondents at Truman Lake have an average value of 2.94 to the statement that "The amount of recreation fees are a very important factor in determining which recreation areas I visit," with respondents at Priest Lake having an average value of 3.01 to the statement. Visitors at Truman Lake do not respond as favorably (average value of 3.11) to the statement that "Charging recreation fees helps provide the kind of recreation services that I prefer" as do respondents at Priest Lake (3.79). Additionally, respondents at Truman give lower preference ratings ("How do you feel about this area?") to the

Table 4
Attitudes and Perceptions of Fees

	Truman	Priest
Travel costs and travel time are a very important factor in determining which recreation areas I visit (CSTIMP)	3.22 ¹	3.15
The amount of recreation fees are a very important factor in determining which recreation areas I visit (FEEIMP)	2.94	3.01
Charging recreation fees at day-use areas helps provide the kind of recreation services that I prefer (FEEPRO)	3.11	3.79
If fees were not charged at this area I would visit: (FEEBEH)		
Much more often	16 (4.0%)	20 (5.1%)
Slightly more often	29 (7.2%)	31 (7.8%)
About the same	357 (88.9%)	330 (83.5%)
Slightly less	0	9 (2.3%)
Much less	1 (0.2%)	5 (1.3%)
How do you feel about this area? (AREAFEL)		
"..would not go elsewhere.."	a) 70 (17.3%)	116 (29.3%)
"..would go elsewhere but prefer this area.."	b) 181 (44.7%)	215 (54.3%)
"..makes no difference whether I use this area or another"	c) 140 (34.6%)	57 (14.4%)
"..would come here again, but prefer to go elsewhere"	d) 13 (3.2%)	8 (2.0%)
"..would not come here again"	e) 1 (0.2%)	0
Money collected at day-use areas should be used: (MONEY)		
"..at the area where collected.."	a) 156 (38.5%)	213 (53.5%)
".. at any day use area"	b) 173 (42.7%)	131 (32.9%)
"..any Corps recreation area (campground, overlook)"	c) 52 (12.8%)	44 (11.1%)
"..to offset costs of any Corps program, e.g., flood control"	d) 8 (2.0%)	6 (1.5%)
"..returned to the U.S. Treasury."	e) 1 (0.2%)	0
"Other"	f) 15 (3.7%) Protest Response	4 (1.0%)
¹ 5 = strongly agree, 4 = agree, 3 = no opinion, 2 = disagree, 1 = strongly disagree.		

area where the interview was conducted (3.76) than respondents at Priest (4.11). Respondents at Truman Lake are more likely to give protest responses to the question of where they think collected day-use fees should be directed (3.7 percent at Truman versus 1 percent at Priest), while respondents at Priest Lake are more likely to wish that fees are directed toward the area where the fee was collected (53.5 percent at Priest versus 38.5 percent at Truman).

Model Procedures

The response of visitors to implementation of fees and perceptions of recreation quality are affected by experiential (recreation experience), sociodemographic, and perceptual factors that are measured by the variables and questions included in the survey. Development of ordered probability models was undertaken to identify what variables and factors are important for or influence the support of fees and perceptions of recreation quality. The factors were developed from the 11 attitude and perception variables (see Table 5 for variables used in factor analysis). Factor analysis was used to group responses for the 11 attitude and perception variables to a few factors that represent broader themes or characteristics. Variables were grouped as factors to the degree of response similarity. (Appendix C has an explanation of the ordered probability model process.)

Survey data were numerically coded and entered into the Statistical Program for Social Sciences (SPSS) (1993) database. Questions relating to visitors' attitudes and perceptions of their recreation experience were coded on a 5-point Likert scale. Factor analysis, with varimax rotation, was implemented on these variables to condense these 11 variables into a smaller number of factor scores. These factor scores were calculated using the regression method, and the calculated factor scores were entered into the database for each observation. The SPSS database was imported into LIMDEP modeling software (Econometric Software 1995) in order to use the ordered probability functions of LIMDEP (see Appendix C for explanation of Ordered Probit Form).

Several ordered probability models were developed in LIMDEP using a measure of visitor's support of the Corps recreation fee program (FEESUP) as the dependent variable. The FEESUP variable was condensed from the initial 1 to 10, 10-point scale, to a 5-point scale (0 to 4), to ease analysis. A model was developed using visitor perception of recreation quality (QUALITY) as the dependent variable. Ordered probability models require that the dependent variable has a 0 category and observations for all numeric responses in the given range. The variable responses were therefore condensed to include a 0 category and have representation in all numeric categories. For each model, the ordered probit models were run, and all variables with T-scores less than 1.0 were removed and the model was rerun. This step was repeated until all variables remaining in the model had T-scores greater than 1.0.

Table 5 Variables From Survey	
FEESUP	Respondent's support of the Corps recreation fee program
QUALITY	Respondent's perception of quality of recreation experience
AGE	Respondent's age
ANNPAS	Is respondent an annual pass holder?
ANNVST	Number of visits in last 12 months
AREAFEL	Measure of loyalty to area where survey was conducted
BOAT	Survey conducted at boat ramp or beach area
CSTIMP	Is travel cost and travel time an important factor in choosing a recreation area to visit?
EDUCAT	Respondent's highest level of education attained
ETHNIC	Respondent's ethnic group
FEEIMP	Are recreation fees an important factor in choosing a recreation area to visit?
FEEPRO	Does charging recreation fees help provide the kind of services the respondent prefers?
FRSVST	Is this the respondent's first visit to the area?
GENDER	Male or female
HSEHLD	Number of people in respondent's household
INCOME	Respondent's 1995 household income
MONEY	Where respondent feels the money collected from recreation fees should be spent
QTRLKS	Had respondent visited other lakes in the last 12 months where recreation fees were charged?
PTYSZ	Number of individuals with the respondent during the visit when the survey was conducted
TRVDIS	One-way travel distance from home to survey area
YRSVIS	Number of years respondent has been visiting survey area
Variables Included in Factor Analysis	
BEHAV	Did the behavior of other visitors negatively impact the quality of the respondent's visit?
CLEAN	Perception of area's cleanliness
CROWD	Did respondent feel crowded by other visitors?
FACIL	Were adequately developed facilities provided, boat ramps and launch lanes for boaters, picnic tables, restrooms, and playgrounds for beach visitors?
MNTAIN	Perception of the area being well maintained
PARK	Was adequate parking provided?
REGS	Were lake regulations well posted and easily understood?
SAFE	Perception of personal belongings being safe and secure
SCENIC	Perception of scenic quality of recreation area
STAFF	Availability of project staff
WDLDF	Ability to view wildlife at recreation area

Truman Lake Models

Factor analysis condensed the initial 11 attitude and perception variables from the Truman Lake survey into 5 factor scores. The factor scores are, for the most part, logical and easily understood. Factor 1 is dominated by visitors' perception of the area's cleanliness (CLEAN) and how well the area is maintained (MAINTAIN). Factor 2 is dominated by the perception of adequate parking (PARK) and developed facilities (FACIL) (boat ramps and launch lanes for boaters; picnic tables, restrooms, and playgrounds for beach users). Factor 3 is dominated by perceptions of crowding (CROWD) and the behavior of other visitors (BEHAV). Factor 4 was dominated by perceptions of scenic value (SCENIC), ability to view wildlife (WLDLF), and security of personal belongings (SAFE). Factor 5 was dominated by the perceptions of project staff availability (STAFF) and adequate posting of regulations (REGS) (see Appendix D for Factor Matrices).

Distribution of observations of the condensed FEESUP variable for the Truman Lake survey population was two tailed with 124 of the 404 observations (30.7 percent) in the 0 category (strongly opposes fees) and 115 of the 404 (28.5 percent) in the 4 category (strongly supports fees) (Table 6). Thus visitors are somewhat polarized regarding support of fees with a large percentage both supporting and opposing fees.

The initial model behaved well with a chi-square value of 264. Nine variables had T-scores greater than 1.0, with four variables significant at the 0.05 level and an additional variable significant at the 0.10 level (Appendix D, Truman Model 1). The model correctly predicts FEESUP for 223 of the 403 observations (55.3 percent), which is 2.77 times better than random chance.

The independent variables that measure visitor attitudes towards recreation fees and costs dominate the initial model. The variable FEEPRO, a measure of visitor perception that recreation fees provide preferred recreation services, is closely related to the dependent variable FEESUP and strongly influences the model. Therefore, the model was rerun without FEEPRO to determine if FEEPRO overwhelmed otherwise significant variables. An additional four variables were identified as significant at the 0.05 level when FEEPRO was removed from the model (Appendix D, Truman Model 2). As expected, the model's predictive power decreased, with a chi-square of 87 and 177 of 403 (43.9 percent) observations correctly identified (2.20 times better than random).

A third model was run removing variables relating to visitors' attitudes towards fees and concentrating on those variables related to the visitors' experiences, demographic characteristics, and factor scores of perception and attitudes of the area. Nine variables with T-scores greater than 1.0 remained in this model, six significant at the 0.05 level, and two significant at the 0.10 level. The model had a chi-square of 67 predicting 170 of 403 (42.2 percent)

Table 6 Fee Support for Truman Lake Population		
Value	Frequency	Percent
Survey Responses		
1	118	29.2
2	6	1.5
3	14	3.5
4	6	1.5
5	66	16.3
6	20	5.0
7	18	4.5
8	41	10.1
9	13	3.2
10	102	25.2
Total	404	100.0
Condensed		
0	124	30.7
1	20	5.0
2	86	21.3
3	59	14.6
4	115	28.5
Total	404	100.1

observations correctly identified (2.11 times better than random) (Appendix D, Truman Model 3).

Variables relating to the importance visitors place on recreation costs including FEEPRO, FEEIMP, and CSTIMP were significant to the Truman Lake models. Visitors that are more likely to support fees:

- Agree with the statement that charging recreation fees helps provide the kind of recreation services they prefer.
- State that travel cost and travel time are important factors in determining where they visit.
- Gave high perceptions of the area's cleanliness and the area being well maintained (Factor 1).
- Visitors reported adequate parking and adequately developed facilities (Factor 2).

- Said crowding and the behavior of others were not a problem (Factor 3).

Visitors that are less likely to support fees:

- State that the amount of recreation fees are an important factor in determining which recreation areas they visit.
- Report more years experience visiting the area (i.e., have not had to pay).

Recreation Quality Model - Truman Lake

An ordered probit model was developed from the responses to the question:

“On a scale of 1 to 10, 1 being very poor and 10 being excellent, how would you rate the overall quality of your recreation visit today?”

The quality model was developed with a 0 to 8, 9-point measure of visitors perception of recreation quality as the dependent variable (Table 7). In this model, eight variables remained with T-scores greater than 1.0, four significant at the 0.05 level, with an additional one significant at the 0.10 level (Appendix D, Truman Model 4). The chi-square of the model was 86. There were 169 of the 400 observations (42.3 percent) that were correctly identified (3.81 times better than random). Significant variables include AREAFEL, BOAT, FEEPRO, PTYSZ, and Factor 5. Visitors that are more likely to give higher ratings of recreation experience quality are more likely to:

- State high preferences for the area where they were surveyed.
- Agree with the statement that recreation fees help provide preferred recreation experiences.
- Visit in larger groups.
- Give high scores for project staff availability and well-posted regulations.

Swimming beach visitors are more likely to give a high rating of recreation experience quality than are boaters.

Table 7 Quality Ratings for Truman Lake		
Value	Frequency	Percent
Survey Responses		
1	2	0.5
2	0	0.0
3	2	0.5
4	5	1.2
5	25	6.2
6	22	5.4
7	40	9.9
8	92	22.8
9	53	13.1
10	163	40.3
Total	404	99.9
Condensed		
0	2	0.5
1	2	0.5
2	5	1.2
3	25	6.2
4	22	5.4
5	40	9.9
6	92	22.8
7	53	13.1
8	163	40.3
Total	404	99.9

Priest Lake

Factor analysis of the Priest Lake survey data condensed the 11 attitude and perception variables into four factor scores. Again, the factors are for the most part logical and structured similarly to the Truman factors. Factor 1 is dominated by the variables CLEAN and MNTAIN. Factor 2 is made up of the variables regarding adequate posting of regulations (REGS), security of personal belongings (SAFE), and availability of project staff (STAFF). Factor 3 at Priest represents physical and natural resources quality perceptions. This factor is composed of adequacy of boater and beach-user facilities (FACIL), adequacy of parking (PARK), scenic values (SCENIC), and ability to view wildlife (WLDLF) variables. These physical and natural resource variables compose the same factor for Priest. The final factor for Priest (Factor 4) contains the social dimensions-

for Priest. The final factor for Priest (Factor 4) contains the social dimensions-human interactions considerations. As with Truman, this factor is composed of the behavior of other visitors (BEHAV) and perceptions of crowding (CROWD) (See Appendix D for Factor Matrices).

The dependent variable of visitor support of recreation fees (FEESUP) is one tailed for the Priest Lake sample and skewed towards strongly supporting recreation fees; 205 of the 398 (51.5 percent) observations are in the highest category (Table 8).

Table 8		
Fee Support for Priest Lake Population		
Value	Frequency	Percent
Survey Responses		
1	38	9.5
2	2	0.5
3	4	1.0
4	2	0.5
5	44	11.1
6	18	4.5
7	25	6.3
8	60	15.1
9	24	6.0
10	181	45.5
Total	398	100.0
Condensed		
0	40	10.1
1	6	1.5
2	62	15.6
3	85	21.4
4	205	51.5
Total	398	100.1

The initial model of visitor support of user fees behaves well with a chi-square of 154 (Appendix D, Priest Model 1). The model correctly predicts 222 of the 395 (56.2 percent) observations, 2.81 times better than chance. Eight variables remained in the model with T-scores greater than 1.0, six significant at the 0.05 level, with an additional variable significant at the 0.10 level. FEEPRO, again, dominated the model.

The second model, removing FEEPRO from the regression, had two additional variables with T-scores greater than 1.0; five variables were significant at

the 0.05 level (Appendix D, Priest Model 2). The chi-square of the model was 78, and 206 of 392 (52.6 percent) observations were correctly predicted (2.63 times better than chance) (Appendix D).

The third model, with all variables relating to recreation costs removed, had a chi-square of 68. Of 207 observations, 393 (52.7 percent) were correctly predicted (2.63 times better than chance) (Appendix D, Priest Model 3). Seven variables remained in this model with T-scores greater than 1.0, three significant at the 0.05 level, with an additional two significant at the 0.10 level.

Visitors that are more likely to support fees:

- Report higher preferences for the area where the survey was conducted.
- Have visited other lakes where recreation fees were charged.
- Report higher ratings for the recreation experience quality.
- Are more likely to be women.

Visitors that are less likely to support fees:

- Report more years experience visiting the area.
- State that fees are an important factor in determining which recreation areas to visit.

Recreation Quality Model - Priest Lake

A model was run using the variable QUALITY as the dependent variable for the Priest Lake population (Table 9). This model had a chi-square of 96 and correctly predicted 177 of the 393 (45 percent) observations (3.6 times better than chance) (Appendix D, Priest Model 4). Nine variables remained in the model with T-scores greater than 1.0. Seven were significant at the 0.05 level including AGE, AREAFEL, FEEPRO, and all four factor scores.

Visitors that are more likely to give higher ratings of recreation experience quality are more likely to:

- Give high ratings on the area's maintenance (Factor 1).
- Be satisfied with staff performance and security at the project (Factor 2).

Table 9 Quality Ratings for Priest Lake Population		
Value	Frequency	Percent
Survey Responses		
1	0	0.0
2	2	0.5
3	0	0.0
4	1	0.3
5	5	1.3
6	12	3.0
7	26	6.5
8	125	31.4
9	73	18.3
10	154	38.7
Total	398	100.0
Condensed		
0	2	0.5
1	1	0.3
2	5	1.3
3	12	3.0
4	26	6.5
5	125	31.4
6	73	18.3
7	154	38.7
Total	398	100.0

- Give high rating to the natural resources and developed facilities (Factor 3).
- Perceive the area to be uncrowded and not distracted by the behavior of other visitors (Factor 4).

Visitors that said cost was highly important in choosing a recreation area are less likely to give high ratings to recreation experience.

Analysis of Comments on Fees

Respondents were given the opportunity to give any comment they wanted pertaining to fees through two open-ended questions. Appendix B contains the comments as recorded by the surveyors. At the conclusion of the survey, respondents were asked, "Do you have any questions or comments concerning the Corps of Engineers Day-Use Fee Program?" Thirty-seven percent of the sample provided some type of comment to the question; close to an equal percentage for each project responded. Respondents were asked, "On what types of projects should (Lake Name) spend the money from day-use fees?"

There were some 301 individual comments on the day-use fee program, and these were coded into nine categories. The frequency of comment by project is found in the following tabulation.

Comment	Priest	Truman
"Support Fees"	15	32
"Oppose Fees"	8	30
"Double Taxation"	5	36
"Oppose Fees and Double Taxation"	8	30
"Annual Pass Concerns"	3	12
"Implementation of Fee Program"	3	12
"Suggestions for Operations and Management"	63	25
"Other"	38	7

Some respondents used the opportunity to make suggestions for project operations that may or may not be related to the fee program. If the response dealt with how the fee revenues should be spent, then the comment was included in the analysis of the "how should the money be spent" question.

There were three times as many comments opposing fees at Truman as at Priest. Truman also had twice as many respondents that "Support Fees." The "Support Fees" comment all mentioned support of fees as long as they are at current levels, or the fees are used locally to maintain facilities. Only one "Support Fees" comment (Priest) suggested the fee may be too low.

The comments that opposed fees mentioned the double taxation, access to public areas, and a few suggestions for exemptions for older people and local residents. As mentioned, there were three times as many opposing comments at Truman as at Priest.

The majority of "Annual Pass Concerns" related to need for greater access to purchasing the passes. Purchasing the pass prompted such comments as

“inconvenient,” “need to be more available,” and “should be able to purchase through the mail.” A few comments dealt with such things as how the pass is displayed (“allow to be placed on window”) or greater applicability of the pass (“one sticker for all lakes”).

Comments on “Implementation of the Fee Program” at Priest questioned why fees are charged at some areas and not at others. There were similar comments at Truman regarding charging fees at all areas. At Truman, several comments mentioned need for more or larger signs explaining the fees, and the lack of any observable checking for compliance. One respondent objected to charging at beaches though supporting fees at boat ramps.

“Suggestions for Operation and Maintenance” were more numerous at Priest. It could be inferred from some of the comments that visitors expect more services since they are paying fees. Thirteen out of the sixty-three comments at Priest mention need for more supervision, security, patrols, or rangers; only one Truman comment mentioned this. The desire for a lifeguard was mentioned at both projects, with one Truman respondents saying “SHOULD HAVE LIFEGUARD SINCE FEES ARE CHARGED.” Boating safety and control of jet skis were mentioned at both projects. Maintenance (litter, clean bathrooms and beaches) was frequently mentioned at Priest.

The “Other” category contained positive comments about the project areas or reflect the visitor’s experience that day.

“Fee Revenues Should Be Spent On....”

Approximately half (54 percent) of respondents made suggestions for spending revenues collected from day-use fees. Many respondents made multiple suggestions, and these were included as additional responses. Responses were coded as 67 different responses and categorized in the following tabulation:

Comment	Priest	Truman
"Restrooms"	34	29
"New Facilities"	61	20
"Operations"	22	17
"Ramps"	5	17
"High-Water Facilities"	0	21
"Docks"	9	13
"Roads, Paving, and Parking"	28	14
"Children's Playground Equip."	47	13
"Beaches"	43	13
"Campgrounds"	1	3
"Lights"	0	6
"Maintenance"	26	18
"Rehabilitation of Facilities"	0	7
"Natural Resource Conservation"	1	8
"Water Quality"	6	13
"Sport Fisheries"	2	26
"Other"	0	3

The most frequently suggested items were restrooms, new or additional facilities, and operations activities. In the demand and marketing report, 60.9 percent of responses identified "cleanliness of restrooms" as "Very Important." Clean and well-appointed "Restrooms" (e.g., flush toilets, running water, door locks) continue to be highly desirable and viewed as a good use of fee revenues. At Truman, concerns were primarily for more developed (e.g., flush toilets) and cleaner facilities. At Priest, 18 of the 34 responses wanted bathrooms closer to the beach. Other responses wanted more developed facilities.

Suggestions for "New Facilities" (other than restrooms) were more numerous for Priest. Almost a fourth of respondents wanted more picnic tables and grills. Showers, telephones, and a beach for jet skis followed picnic tables. At Truman, a third of the "New Facilities" included running water, showers, and water fountains. Upgraded and new "Ramps" were requested by 17 respondents at Truman and 5 at Priest. In addition to "New Facilities," 21 respondents at Truman suggested spending fee revenues on "High-Water Facilities." "Docks" were suggested by 22 visitors (9 at Priest, 13 at Truman). For "Roads, Paving, and Parking," there were 28 respondents at Priest and 14 at Truman. Additional or new "Children's Playground Equipment" was suggested by 60 visitors (47 at Priest, 13 at Truman).

Over three times as many visitors at Priest thought money should be spent on "Beaches." A number of comments requested the money be spent for providing lifeguards. The need for "Lights" perhaps for increased security was mentioned six times at Truman.

Spending fee revenues for various changes in "Operations" accounted for 8 percent of the responses for both projects. At Priest, 10 of the 23 responses wanted increased security patrols. Another six respondents requested more information services in the form of regulations on swimming, boating, jet skis, and another one for education about the lake in schools. Remaining singular responses included such things as handicap equipment, removing stumps from the lake, and extending the recreation season. At Truman, the "Operations" suggestions were similar to Priest, but more far ranging and with no strongly held suggestions. A fourth (5 out of 20) of the suggestions wanted attendants at the area, and three suggested increased security patrols and one for wildlife enforcement. Maintenance of campgrounds, lake level and water safety information, and handicapped equipment received multiple responses.

In addition to the "Operations" suggestions, 44 (26 at Priest, 18 at Truman) responded that the money should be spent on "Maintenance." "Upgrading," "Modernizing," and "Rehabilitation of Facilities" were suggested by seven respondents at Truman. "Natural Resource Conservation" received eight responses at Truman and one at Priest. "Water Quality Concerns" were twice as prevalent at Truman as at Priest. Twenty-six visitors at Truman (two at Priest) said revenues should be spent on sport fisheries stocking and enforcement.

There were a remaining few comments, e.g., complaints about personnel, which were categorized as "Other."

5 Comparison of Prefee and Postfee Implementation

One of the primary objectives of the postfee study is to assess behavior, perceptions, and attitudes of visitors after the implementation of day-use fees. In this chapter, the findings of the demand and marketing study conducted in 1993 prior to the implementation of day-use fees are compared with findings of the 1996 survey. Comparisons are made on sociodemographic characteristics, visitation patterns (e.g., number of trips), perceptions of recreation experience (quality), and attitudes relating to fees.

A strong effort was made to develop a survey instrument for the postfee study that would allow comparison with the demand and marketing study. However, several issues relating to the nature of the two studies and the ultimate implementation of the fee program make direct comparison of the two studies problematic.

The preefee study used a mailback survey with visitor names and addresses collected by surveyors intercepting day-use visitors in their vehicles as they left the area for the day. The postfee study used face-to-face survey techniques with study personnel intercepting visitors at the day-use fee area. The demand and marketing survey was conducted when the fee structure (type and amount of fee) was still uncertain. That study represented the proposed fee structure as a vehicle entrance fee, rather than the beach and ramp user fee that was ultimately implemented. The 1993 survey focused efforts on identifying the willingness-to-pay for access or entrance to day use facilities rather than a user fee or willingness-to-pay for specialized facilities, boat ramps and beaches. As such, different combinations of vehicle entrance fees and annual pass prices were used as choice variables for respondents in the demand and marketing study. The postfee study was intended to evaluate the use and perceptions resulting from the fee policy that was ultimately adopted and implemented rather than trying to identify the correct policy to adopt.

Mailback response rates for the demand and marketing study were 57.1 percent at Truman Lake and 50.5 percent at Priest Lake. It was assumed in the study that nonrespondents, those visitors who did not return their surveys, would have responded in the same way as respondents. This lower-than-expected

response rate was explained to result from the length of the questionnaire, uncertain mail delivery due to the 1993 Midwest flood, and a low level of commitment to the survey among day-use visitors.

For the postfee study, a decision was made to not survey those visitors that had not paid the day-use fee. It would have been desirable and useful to identify the attitudes, perceptions, and behavior of the noncompliant visitors. However, having study personnel ask noncompliant visitors questions concerning fees they had not paid (and which are enforceable by citation and fine) would likely create biased responses with a lack of credibility, and potentially put survey personnel in hostile situations. Since the noncompliant visitors refused to pay the fee, it should be assumed that these individuals have dissimilar views on the fee program from individuals who complied with the fee program. Additionally, those individuals who have been displaced by the day-use fee program and have decided to either stop visiting the projects or are visiting areas at the project with no day-use fees are not represented in the 1996 study.

Therefore, the sample populations for the two studies are inherently different. The demand and marketing study sample was composed of visitors to Corps day-use areas prior to the implementation of day-use fees. This present study's sample population is visitors to fee day-use areas that have complied with the day-use fee program.

Visitor Profiles

Breakdowns of proportions of boaters to beach users were not available from the 1993 study. It is likely that the population of fee-paying visitors has a larger representation of boaters at Truman Lake and a smaller representation of boaters at Priest Lake than the study population of day-use visitors in the demand and marketing study.

The 1993 study identified statistically significant sociodemographic and visitation characteristics affecting respondents' likelihood to pay day-use fees. In that study, significant variables included gender (males were less likely to pay fees), party size (respondents in larger parties were more likely to pay fees), travel distance (respondents who had traveled further were more likely to pay fees), annual visits (respondents making fewer annual trips were more likely to pay fees), and experience paying fees at other lakes (respondents with experience paying recreation fees at other lakes were more likely to pay fees).

Comparison of socioeconomic characteristics (Table 10) of the two survey samples shows that the primary difference at Truman Lake is the larger percent of males and the higher average income in the 1996 study. The primary differences at Priest Lake are the younger age of respondents and the lower representation of male visitors in the 1996 study.

Table 10 Comparison of Sociodemographic Characteristics for Demand and Marketing (D&M) Study and Postfee Study		
Characteristics	1993 D&M Study	Postfee Study
Truman Lake		
Age	44.7	44.9
Sex-Percent Male	69.4	74
Household Size	2.8	2.96
Years Education	13.3	13.36
Income (thousands)	38.4	49.75
Race-Percent Non-Caucasian	4.0	3.0
Priest Lake		
Age	38.2	34.72
Sex Percent Male	59.8	46
Household Size	3.3	3.51
Years Education	13.5	13.21
Income (thousands)	40.1	42.07
Race Percent Non-Caucasian	8.2	11.2

The most significant difference in the visitation characteristics between 1993 and 1996 (Table 11) is the additional trips made by respondents at Truman Lake and the fewer trips made by respondents at Priest Lake. Party size for Truman Lake is slightly higher and significantly higher for Priest lake in the postfee study. Truman Lake reports significantly higher travel distance, and Priest Lake reports slightly lower travel distances; however, these differences are likely due to the format of the questions in the two studies.

In 1996, travel distances were collected as an open-ended question, so that the exact travel distances was recorded. The responses to the travel distance question in the user-administered demand and marketing mailback survey were in the form of ranges of distances, e.g., "61 to 70 miles." However, the last category was "more than 70 miles," so that visitors to Truman from the Kansas City or Springfield area and farther were lumped together in that category.

Some differences in the sociodemographic and visitation characteristics of the 1993 and 1996 survey populations may be attributable to changing visitation patterns caused by the implementation of day-use fees. It is difficult to separate visitation and sociodemographic changes from the differences in the sample populations of the two studies due to the implementation of day-use fees.

Table 11 Comparison of Visitation Characteristics for Demand and Marketing (D&M) Study and Postfee Study		
Characteristics	1993 D&M Study	Postfee Study
Truman Lake		
Party Size ¹	3.0	3.14
Travel Distance ²	44.5	63.5
Annual Trips	17.5	21.29
Priest Lake		
Party Size ¹	3.0	4.52
Travel Distance ²	12.0	10.8
Annual Trips	24.6	15.09
¹ Party size was measured with a maximum category of six or more individuals in the D&M study with no maximum category in the 1996 study. ² Travel distance was measured in 10-mile increments in the D&M study with a maximum category of 70 or more miles. The 1996 study used an open-ended question to obtain respondents' estimated travel distance. In the analysis the, lakes' market areas were condensed to include 90 percent of all respondents (175 miles for Truman Lake and 30 miles for Priest Lake).		

Visitor Perceptions, Behavior, and Reaction to Fees

Overall, respondents at Truman and Priest lakes gave high ratings to recreation quality and area preferences in both the demand and marketing study and this study (Table 12). Respondents, on average, reported positive evaluations of Corps facilities and management and strong loyalty to Corps day-use areas.

Ratings of recreation quality increased for both projects. (Converting the 1993 quality ratings to a 10-point scale: Truman 7.8, Priest 7.6). Ratings of recreation experience remained higher for Truman than for Priest. Preference or loyalty to the area increased at both projects, and visitors to Priest continued to have stronger loyalties than Truman.

Looking at the projects separately, the means for recreation quality are 8.43 at Truman and 8.77 at Priest. This demonstrates highly rated recreation experiences at both projects; approximately 40 percent at both projects rated QUALITY as 10.

The overall recreation quality ratings are supplemented by the ATTITUDE AND PERCEPTIONS statements (Q10-Q20) responses on the Strongly Agree to Strongly Disagree Likert scale. Table 13 summarizes the means for the statement responses for both projects and the combined sample. The mean values from

Table 12 Comparison of Recreation Quality and Area Preference Ratings for Demand and Marketing (D&M) Study and Postfee Study		
	1993 D&M Study	Postfee Study
Truman Lake		
Quality ¹	3.9	8.44
Area Preference ²	3.7	3.76
Priest Lake		
Quality ¹	3.8	8.75
Area Preference ²	3.8	4.11
¹ The D&M study used a 1- to 5-point Likert scale: 5 = excellent; 4 = very good; 3 = good; 2 = fair; and 1 = poor. The 1996 study used a 1- to 10-point preference scale with 1 = very poor and 10 = excellent. ² The area preference question was formatted: 5 = I would not go elsewhere in the region; 4 = I would go elsewhere, but I prefer this day-use area; 3 = It makes no difference to me whether I use this day-use area or another area; 2 = I would come here again, but I would prefer to go elsewhere; and 1 = I would not come here again.		

Table 12 were tested to see if there are statistically significant differences between visitors to the two projects. For beaches (BEACH), Priest had significantly higher agreement ratings. For ramps, parking, safety, wildlife viewing, and staff availability, Truman had significantly higher ratings (RAMPS, PARK, SAFE, WLDF, STAFF). The variables and the p-values from the T-tests are:

P >
RAMPS 0.0001
BEACH 0.0001
PARK 0.0001
WLDF 0.0001
STAFF 0.0021

The Importance-Performance Analysis in the demand and marketing study had ratings of Excellent or Very Good/Good or Fair/Poor for a list of services and facilities. Performance ratings for facilities corresponding to the pre-implementation study are in Table 14. The ratings are aggregated for the six demand and marketing study projects.

Comparing Table 14 and the current study and making judgments on whether perceptions have changed, a reading of the findings would seem to indicate that facilities at day-use facilities at beaches are similar to the 1993 ratings at Priest, but the low of 1.26 for Truman is lower than the average. However, in 1993 the beaches at Truman were delayed in opening or the beaches were destroyed due to summer flooding in the Midwest. Perceptions of parking facilities are the same for both years. Evaluation of ramp facilities are improved. Safety or security

Table 13 Comparison of Attitude and Perception Responses				
	Variable Name	Truman	Priest	Combined
The facilities were clean	CLEAN	4.02	4.02	4.02
The facilities were well maintained	MNTAIN	4.01	4.07	4.04
(At Boat Ramps) There were adequate boat ramps and launch lanes available	RAMPS	3.99	4.27	3.95
(At Beaches) There were adequate facilities available such as picnic tables, restrooms, and playgrounds	BEACH	3.73	3.89	3.86
There was adequate parking	PARK	3.89	3.64	3.77
I felt crowded by other visitors	CROWD	2.20	2.17	2.19
The behavior of other visitors detracted from my recreation experience	BEHAV	2.19	2.18	2.19
I felt my personal belongings were safe and secure	SAFE	3.95	3.78	3.87
This recreation area is very scenic	SCENIC	4.26	4.30	4.28
There are excellent wildlife viewing opportunities	WLDLF	3.90	3.41	3.66
Staff appeared to be available if any assistance was required	STAFF	3.40	3.22	3.31
Lake information and regulations were well posted	REGPOST	3.92	3.86	3.89

Table 14 Performance Ratings—Demand and Marketing Study (six projects)			
	Excellent or Very Good	Good or Fair	Poor
Swimming Beach	38.0	32.8	5.6
Adequate Parking	44.3	38.4	6.2
Boat Ramps	33.5	29.0	1.0
Security Patrols	20.3	25.9	4.5
Scenery	53.0	30.0	0.7
Friendliness of Staff	41.9	20.6	1.3

concerns are the same or perhaps improved. Scenic values and evaluations of staff are the same for both years.

Fees

Attitudes and behavior responding to fees can be compared using the two surveys. As stated in Chapter 1, the demand and marketing survey was administered prior to the establishment of the day-use fee policy, and so much of the focus of that effort was in eliciting perceptions of fairness and establishing willingness-to-pay values. The emphasis of the 1996 postimplementation survey was in assessing impacts the fee policy had after it was implemented.

As discussed in the background and history of fee authorization within the Corps (Chapter 1), there were two groups of thought on the impact of fees on the visitors. The first was that fees would discourage visitation as an additional cost. Experience of Corps personnel with the use of the travel cost method for evaluating recreation benefits gave much credibility to this idea. The basis of travel cost recreation demand is that travel and time costs in addition to any costs of using the recreation resource act as a barrier to visitation. Adding a day-use fee to the already existing travel costs should have a similar impact on visitation as increasing the distance and costs of traveling from a visitor's home to the project. The impact of increased costs on visitation is added to the potential impact or reaction of the public to implementation of a charge for use and enjoyment of public lands.

The opposing view on fees is that people are willing to pay for use of well-maintained and well-operated facilities. Use fees are viewed as a fair charge to the consumers of particular facilities, and the fees are seen as a way to ensure the ongoing availability of adequately maintained facilities.

The postimplementation survey included measurement of both views of the fee question. The "fees will reduce visitation" views were incorporated in the Agree/Disagree statements that said

- "Travel costs and travel time are a very important factor in determining which recreation areas I visit." (CSTIMP)
- "The amount of recreation fees is a very important factor in determining which recreation areas I visit." (FEEIMP)

The view that fees are appropriate is measured by the statements:

- "Charging recreation fees at day-use areas helps provide the kind of recreation services that I prefer." (FEEPRO)
- A 1 to 10 rating question asks "What is your level of support for the day-use fee program?"

The demand and marketing study used a series of 5-point¹ Agree/Disagree statements on fees. These included:

- “I should not pay a fee to visit Corps of Engineers day-use areas.”
- “I am willing to pay a fair day-use fee when using Corps day-use areas.”
- “I should not pay a day-use fee unless I use special facilities like boat ramp, group shelters, and bathhouse.”
- “I should pay a day-use fee that covers operation and maintenance costs.”

Importance of Fees for Determining Visitation

Both projects exhibited strong opposition to paying fees in the demand and marketing study, with agreement to the “should not pay fee” statement near the 4 = Agree point of the scale with Truman at 4.21¹ and Priest at 4.03. Willingness to pay a fair fee received even lower agreement at 2.34 for Truman and 2.60 for Priest.

Support for the fee program (FEESUP) was examined to determine if previous experience at the project was related to the level of support for fees. Support for fees was higher at Priest with a mean value of 7.71 versus 5.54 (out of 10) at Truman; FEESUP means were significantly different between projects at the 0.0001 level. For the entire sample (both projects), visitors that did not visit prior to 1994 (AFTERFEE)² had a higher level of support for fees ($p > 0.0001$). Looking at the projects separately, visitors at Truman reported lower support than Priest visitors, whether or not they visited prior to implementation of fees (Table 16). Experience with fees at other projects (OTRLKS) did not make a significant difference in the support of fees (Table 15).

“Fees Provide...”

Perceptions that the day-use fee program, through generation of revenue, will ensure that maintenance and facility availability will be provided were elicited in both studies using different questions. The demand and marketing study asked about providing special facilities “like boat ramps, group shelters, and bathhouse”

¹ As explained in previous tables, the two surveys both used 5-point Agree/Disagree scales, but the order of the scales was reversed, with 1 = Strongly Agree for the demand and marketing study, and 1 = Strongly Disagree for the postfee study. This resulted from differences in the judgments of the individuals responsible for the respective studies. For purposes of comparison, the demand and marketing results were transformed to the same scale as the postfee study.

² The variable AFTERFEE was defined based on whether visitors had visited over 2 years, that is, had visited prior to charging of fees.

Table 15
Analysis of Variables Related to Support of Fee Program
(FEESUP)

	N	Mean	T	Prob > |T|
PROJECT				
Priest	399	7.71	9.50	0.0001
Truman	403	5.54		
AFTERFEE				
N	600	6.24	-5.98	0.0001
Y	202	7.84		
OTRLKS				
N	506	6.63	0.0870	0.9307
Y	296	6.60		

Table 16
Project Comparisons of Variables for Support of Fees

	N	Mean	T	Prob > |T|
AFTERFEE				
Truman				
N	334	5.31	-2.80	0.0053
Y	69	6.62		
AFTERFEE				
Priest				
N	266	7.42	-3.11	0.0020
Y	133	8.29		
OTRLKS				
Truman				
N	233	5.43	-0.72	0.4718
Y	170	5.69		
OTRLKS				
Priest				
N	273	7.65	-0.62	0.5335
Y	126	7.84		

Note: The demand and marketing study used a 1 to 5 scale that 1 = Strongly Agree to 5 = Strongly Disagree, a descending order of agreement and the opposite of the 1996 study. The demand and marketing ratings have been transformed to make them consistent with the scale used in the postimplementation study.

as the basis for charging a day-use fee; means were 3.62 for Priest and 3.48 for Truman. A fee to maintain "my favorite day-use area" received neutral agreement rating for Priest at 3.20; while even using the fee at the favorite area, this fee received only a 2.72 level of agreement at Truman. Similarly, a fee that covers "operation and maintenance costs" and higher fees for "modernized" facilities were in the range of disagreement.

	Truman	Priest
"operations and maintenance"	1.58	1.88
"modernized"	1.59	1.83

The statement that charging fees helps "provide the kind of recreation services that I prefer" was agreed to more often at Priest than Truman ($p > 0.0001$) with mean of 3.79 at Priest versus 3.14 at Truman. Visitors that had not paid a fee at other projects tended to agree or strongly agree more often with the statement ($p > 0.0001$) (Table 17). There was a significant difference in responses depending on whether the visitor had visited prior to implementation of fees (Table 17). Additionally, there was a significant difference in responses depending on whether or not the visitor had paid a fee at another project for the combined sample, but this difference was not significant for either of the projects considered separately (Table 18).

Table 17				
Analysis of Variables Related to Fees				
"Charging recreation fees at day-use areas helps provide the kind of recreation fees that I prefer" (FEEPRO)				
	N	Mean	T	Prob > |T|
PROJECT				
Priest	399	3.79	9.80	0.0001
Truman	399	3.14		
AFTERFEE				
N	596	3.35	-6.54	0.0001
Y	202	3.80		
OTRLKS				
N	503	3.53	2.28	0.0232
Y	295	3.36		

Table 18 Project Comparisons of Variables for "Fees Provide..." (FEEPRO)				
	N	Mean	T	Prob > |T|
AFTERFEE				
Truman				
N	330	3.04	-4.12	0.0001
Y	69	3.58		
AFTERFEE				
Priest				
N	266	3.73	-2.46	0.0145
Y	133	3.91		
OTRLKS				
Truman				
N	230	3.20	1.362	0.1754
Y	169	3.05		
OTRLKS				
Priest				
N	273	3.80	0.392	0.6984
Y	126	3.77		

Importance of Costs and Fees to Visitation Choices

At Truman, whether or not respondents had visited prior to fee implementation (AFTERFEE) made a significant difference in responses to importance of fees (FEEIMP) ($p > 0.0469$), but this difference was not indicated at Priest (Table 19). Paying fees at other lakes did not make a difference in the importance of total costs (CSTIMP) responses.

In the demand and marketing study, almost half of the respondents (48.7 percent of the sample population for the six reservoirs) reported that they would no longer visit Corps day-use areas if fees were charged. These respondents could have been making a strategic response to these questions to deter the implementation of day-use fees. Although this study was unable to interview visitors displaced by Corps recreation fees, visitation statistics have not borne out the respondents' potential behavior if fees were implemented (visitation data are provided in Chapter 6). Additionally, in this study, only 11.2 percent of respondents at Truman Lake and 12.9 percent of the respondents at Priest Lake reported that their visitation levels would increase if user fees were eliminated.

Table 19 Project Comparisons of Variables for Importance of Fees (FEEIMP)				
	N	Mean	T	Prob > |T|
AFTERFEE				
Truman				
N	334	2.99	1.99	0.0469
Y	69	3.24		
AFTERFEE				
Priest				
N	266	2.94	-1.76	0.0786
Y	133	3.14		
OTRLKS				
Truman				
N	230	3.20	1.36	0.1754
Y	169	3.05		
OTRLKS				
Priest				
N	273	3.80	0.39	0.6984
Y	126	3.77		

Support for Corps recreation fees appears higher after 2 years of charging fees. Additionally, it appears that support for the fee program has increased more significantly at Priest Lake than at Truman Lake. Respondents to the demand and marketing study averaged 4.21 at Truman Lake and 4.03 at Priest Lake to the statement "I should not pay a fee to visit Corps of Engineers day-use areas" showing a strong negative reaction to proposed Corps recreation fees. Measures of support for the day-use fee program averaged 5.54 at Truman Lake and 7.71 at Priest Lake on a 10-point scale (1 = strongly oppose; 10 = strongly support). Further, 38.5 percent of respondents at Truman Lake and 66.6 percent of respondents at Priest Lake gave of 8, 9, or 10, showing high levels of support for the day-use fee program.

6 Summary: Effects of Fee Program

To summarize the effects of implementation of the Corps day-use fees, information on visitation in the years since the demand and marketing study is examined in addition to the survey results from Chapter 5.

Visitation

In the demand and marketing study, approximately half the respondents at Priest and Truman indicated they would not visit Corps recreation areas if a fee was charged. This negative response to charging fees has simply not come to pass. A number of Corps projects indicated that visitation increased because of a greater sense of security with presence of gate attendants at some areas. Comparing the 1993-1996 visitation data reported in NRMS (Table 20) reveals increases for the recreation areas surveyed. At Truman, visits at Shawnee Bend during this survey period (1996) increased by 20 percent over 1994 and was nearly the same (+1%) compared with 1995. (Since flooding affected the 1993 visitation estimates, 1994 was chosen as the base year for comparison.) Visits at Long Shoal increased by 13 percent over 1993. Comparing the increases at the survey areas to visitation at the entire project indicates a 16-percent increase for the project over the 1993 to 1996 period.

Looking at the 1993-1996 time frame at Priest reveals a 10-percent increase in overall visitation.

Comparing changes in visitation for Priest required some additional use estimation. In 1996, Priest changed to reporting visitation under the Visitation Estimation and Reporting System (VERS) system (VERS 1996). To enable comparison and consistency estimates, area visits and visitor hours were made for Anderson Road and Cook using the procedures used in the 1993-1995 visitation estimates (rather than the reported NRMS area visitation estimates).

Table 20 Study Area Visitation Data, 1993-1996									
	1993 Area Visits	1993 Area Visitor Hours	1994 Area Visits	1994 Area Visitor Hours	1995 Area Visits	1995 Area Visitor Hours	1996 Area Visits	1996 Area Visitor Hours	
H. S. Truman									
Shawnee Bend	48,900	160,000	66,900	210,600	79,700	267,200	80,600	855,700	
Long Shoal	112,400	877,400	101,200	987,300	80,600	855,700	126,700	1,026,300	
J. P. Priest									
Anderson Road	343,963	2,876,175	363,356	3,033,732	365,100	3,165,600	352,222 ¹	2,958,664 ¹	
Cook	200,202	842,640	195,525	811,433	168,500	697,400	164,440 ¹	657,760 ¹	
	1993 Project Visits	1993 Project Visitor Hours	1994 Project Visits	1994 Project Visitor Hours	1995 Project Visits	1995 Project Visitor Hours	1996 Project Visits	1996 Project Visitor Hours	
H. S. Truman	1,845,500	11,173,800	1,855,300	10,739,500	1,680,000	12,469,900	2,140,500	20,154,400	
J. P. Priest	8,463,822	27,957,500	8,900,800	29,267,700	9,272,200	30,738,100	6,280,600	20,214,200	
H. S. Truman									
	1993 Area Visits, Boating	1993 Area Visits Swimming	1994 Area Visits Boating	1994 Area Visits Swimming	1995 Area Visits Boating	1995 Area Visits Swimming	1996 Area Visits Boating	1996 Area Visits Swimming	
Shawnee Bend	32,500	14,000	25,200	11,300	32,700	16,000	36,800	15,600	
Long Shoal	33,400	5,600	42,600	28,200	40,000	13,400	43,000	56,800	
¹ Estimated separately for this report.									

Comparing prefee visitation, Anderson Road had a 2-percent increase in visits and a 3-percent increase in visitor hours. The 1996 visitation is a decrease from the higher (3 percent) 1995 number of visits.

Visitation at Cook declined over the 1993-1996 period, showing an 18-percent decrease in visits and a 21-percent reduction in visitor hours.

The demand and marketing study requested response to the Agree/Disagree statement "If the Corps charged a day-use fee, I would no longer visit their day-use areas."

Agreement with the statement was strong at Truman (mean rating of 3.57) and only slightly lower (3.47) at Priest. Over all six projects, 48.7 percent of the visitors reported they would no longer visit Corps day-use areas if fees were charged. Clearly, at Truman and Priest, visitation did not decrease by half. With the exception of the decrease in visitation at the Cook area at Priest, visitation increased by up to 20 percent. It is true that displacement to nonfee areas may occur, but the proportion of current visitors that were users prior to fees (see AFTERFEE information, Chapter 5) is evidence that the proportions of visitors predicted have not stopped using the recreation areas that have begun to charge fees and have not stopped using the projects.

Visitor profiles

Comparing the sociodemographic characteristics of visitors of the two surveyed populations (Table 11) shows differences at Truman that affect concerns about fee placing a disproportionate burden on minority or lower income populations. At Truman, the average income increased by about \$10,000, and visitation by minorities decreased by 1 percent, from 4 to 3 percent in the survey population. Years of education, however, remained the same; education normally increases with higher income and decreases with higher percent minority. Percentage of males increased by 5 percent. At Priest, percentage of minorities increased by 3 percent, and percentage of males dropped by 13 percent; the postfee survey had closer to a 50:50 ratio of males to females. Some of these differences may be explained or result from the different survey techniques. Other differences between characteristics are not deemed significant or are explained by such things as the rate of inflation.

Visitation patterns indicate that average travel distance and number of annual trips increased significantly for Truman (Table 11) between 1993 and 1996 (see explanation of travel distances in Chapter 3). Average party size remained the same. At Priest, average party size increased by one-half. The most significant difference at Priest was a reduction in annual trips from approximately 25 trips in 1993 to 15 in 1996.

Acceptance of fees

The acceptance of fees is examined by comparing the level of support for fees from the two surveys and by comparing the importance of various factors and variables for the support of fees. For the two populations (1993 and 1996) of survey respondents, level of support for paying fees has increased (see Chapter 5, Importance of Fees for Determining Visitation). In the demand and marketing study, both projects exhibited a strong opposition to paying a fee, even a fair fee. After 2 years of fees, there is a change in the level of support for fees at the two projects. At Priest, there is a modest level of support for the fee program (mean of 7.71 on a 10-point scale), while Truman had a mean score of 5.54, near the neutral point. This change in level of support is tempered with the unknown effect of the noncompliant visitors. It is safe to assume that noncompliant visitors would have a much more negative attitude toward the fee program and could thus cause the mean score to be significantly lower if their overall percentage of the visitor population was known.

The lack of support for fees at Truman is further indicated by responses to the "fees provide the ..." preferred recreation experience. At Truman, the agreement means were near the neutral point at 3.14, while the mean for Priest is 3.79, closer to the Agree point. For both measures, FEESUP and FEEPRO, there was a significant difference in responses dependent on whether the visitor had visited before fees were charged. Priest had a higher percentage of visitors that had only visited after implementation of fees.

The probability models developed in Chapter 4 identified important individual and natural resource dimensions that contribute to support for or opposition to fees and the fee program, and that contribute to perception of quality of recreation experience. The Agree/Disagree questions asking about the recreation experience at the project (BEHAV, CLEAN, CROWD, FACIL, MNTAIN, PARK, REGS, SAFE, SCENIC, STAFF, WLDLF (Table 5)) were used in factor analysis to group the variables into factors based on similar responses to variables. Five factors were identified that addressed:

- Cleanliness and maintenance of the project.
- Crowding and behavior of other visitors.
- Availability of developed facilities.
- Project staff activities.
- Natural resources at the project.

Five factors were identified for Truman and four for Priest. In addition to the factors, however, several variables are significant to the probability models for both projects and have the same logical signs. As expected, FEEPRO and FEEIMP were highly significant in the models for both lakes. Visitors that believe fees provide desirable recreation areas (FEEPRO) and those visitors

saying fees are not important in deciding on recreation areas (FEEIMP) logically would support the fee programs.

Additionally, the QUALITY, OTRLKS, and YRSVST variables were significant for the models of both lakes. That is, visitors supporting the fee programs:

- Give high ratings to the recreation experience quality.
- Have greater experience with paying fees at other lakes.

Those visitors who have been visiting the lake for more years and are therefore more familiar with having free access to the recreation areas are less likely to support fees.

Perception of recreation experience

The perception of the recreation experience and satisfaction of the customer is one of the greatest concerns when considering a change in operations such as day-use fees. The perceived quality of the recreation experience increased at both Truman and Priest (Table 12), comparing the prefee and postfee surveys. The area preference ratings were the same for Truman, but increased significantly at Priest. Safety and security (SAFE) ratings of 3.95 (Truman) and 3.78 (Priest) indicate visitors sense they are safe at the projects. These ratings could be interpreted as improvements over the one-fifth of all six project visitors that rated security as excellent or very good (Table 14). The agreement means for "I felt crowded..." indicate that visitors were not experiencing crowding. The highest levels of agreement were for statements about the facilities being "clean" and "well maintained" (Table 13). This level of satisfaction is compared with Table 14 percentages of category ratings, e.g., "Excellent or Very Good." While it is difficult to compare the two rating methods, the high agreement levels in the postfee survey are at the desired (high) level, whatever factors are responsible.

Models to predict recreation quality were developed using the identified factors for the projects and the individual variables. At Truman, visitors more likely to rate recreation quality higher:

- Had a stronger attachment or loyalty to the recreation area (AREAFEL).
- Believe that fees help provide more desirable recreation conditions (FEEPRO).
- Are more likely to recreate with others, not alone (PTYSZ).
- Approve of the performance of project staff (Factor 5).

At Priest, visitors more likely to rate recreation quality higher:

- Had a stronger attachment or loyalty to the recreation area (AREAFEL).
- Believe that fees help provide more desirable recreation conditions (FEEPRO).
- Appreciate the cleanliness and maintenance of the project (Factor 1).
- Approve of the performance of project staff (Factor 2).
- Rate highly the developed facilities and natural resource attributes of the project (Factor3).
- Are not bothered by crowding or the behavior of other visitors (Factors 4).

Conclusions

The 1994 implementation of the day-use fees program was a major change at Corps of Engineers projects. Follow-up evaluation has revealed the following general effects.

- Visitation at Corps projects did not decrease after implementation of the day-use fee program. The drastic reduction in visitation predicted in the 1993 demand and marketing study did not come to pass. Indeed, many Corps projects experienced historically high visitation levels following the implementation of the day-use fee program.
- Comparison of the 1993 and 1996 findings also suggests that acceptance of and support for day-use fees at Truman Lake and Priest Lake have improved.
- Acceptance of day-use fees appears to improve with time. The year 1996 was the third year of day-use fee collection at Priest Lake, while 1996 was the second year of collection at Truman Lake.

The level of visitor approval of day-use fees was highly dependent on the nature of the reservoir's recreation use and the method of fee collection. For this reason, Corps reservoirs had diverse experiences with the implementation of day-use fees. Some projects successfully used the implementation of the day-use fee program to address safety, security, and vandalism concerns, while other projects conversely experienced increased visitor dissatisfaction and vandalism as well as increased work loads managing fee areas.

Identifying differences between the implementation of day-use fees at Truman and Priest lakes exemplify how variable factors of implementation lead to variable outcomes of acceptance. While both lakes showed higher rates of acceptance than expected, respondents at Truman Lake reported significantly lower levels of support for the day-use fee program than respondents at Priest. A

majority of the respondents at Truman reported either high acceptance of day-use fees or very low acceptance. The Priest sample did not show this level of polarization. These findings indicate that most visitors at Priest Lake have accepted day-use fees, although many respondents at Truman Lake report high acceptance of day-use fees.

The 1993 demand and marketing study included recommendations based on study findings and recreation literature that might help to reduce the negative impacts of day-use fees. Comparing these recommendations against the implementation of the day-use fee program might prove insightful.

- The 1993 study recommended that the project staff be involved in the promotion of and visitor education for the need for fees. Although this was being done at both projects, the attended gates at Priest Lake provide face-to-face interactions with Corps personnel at the time of collection versus the honor boxes provided at Truman Lake, where visitor staff contact is often limited to fee compliance checks and issuing citations.
- The 1993 study recommended that the day-use fee program offer visitors choices in fee alternatives. The Corps has provided alternative pricing with the annual pass options and discounts to senior citizens and disabled visitors through the Golden Age/Golden Access programs. Day-use fees are charged at all day-use areas on Truman Lake. However, day-use fee collection is limited to the two largest day-use areas at Priest Lake, and several nonfee areas remain at Priest Lake.

Overall, survey respondents gave high quality ratings to the recreation experience provided by the Corps. Quality of the recreation experience was shown as a significant variable in measuring visitor acceptance of day-use fees in both samples. As visitors become more familiar with paying user fees at Corps projects and other public agencies, dissatisfaction is likely to diminish. Educating and informing visitors about the costs of providing recreation services and the use of the day-use fee revenue and concentration of operations effort on providing quality recreation experience will help provide a successful fee program and provide additional financial resources to the Corps recreation program.

References

- Cochran, W. G. (1977). *Sampling techniques*. 3rd ed., Wiley, New York.
- Econometric Software (1995). "LIMDEP Version 7, User's Manual" (computer program), Econometric Software, Bellport, NY.
- Headquarters, U.S. Army Corps of Engineers (1990). "U.S. Army Corps of Engineers Recreation study," Volume 1, main report, Washington, DC.
- _____. (1995). "Recreation user fees for day use facilities," Engineer Circular No. 1130-2-204, expires 31 March 1997, Washington, DC.
- Henderson, J. E. (1996). "Day use fee collection—innovative methods and success stories," Natural Resources Technical Notes REC-03, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Natural Resources Management System. (1994). "Natural resources management system," Headquarters, U.S. Army Corps of Engineers, Washington, DC.
- Reiling, S. D., McCarville, R. E., and White, C. M. (1994). "Demand and marketing study at Army Corps of Engineers day-use areas," Miscellaneous Paper R-94-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Rylander, R., White, C. M. (1993). "Pilot study effects of implementing day use fees at Corps of Engineers Projects," Technical Report R-93-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
- Statistical Program for Social Sciences. (1993). "Base system user's guide, Release 6.0" (computer program), SPSS, Inc., Chicago, IL.
- Summary of Comments on Day-Use Fee Program (1994). Compiled by Headquarters, U.S. Army Corps of Engineers, Washington, DC.
- Visitation Estimation and Reporting System. (1996). "Visitation estimation and reporting system Version 1.1.2" (computer program), U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

White, C. M. (1992). "Bibliography-fees for outdoor recreation," Miscellaneous Paper R-92-3, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Appendix A

Survey Instrument

Date _____
Time _____
Boat Ramp _____
Beach Area _____

Reservoir _____
Day Use Area _____
Honor Box _____
Attended Gate _____

"Hello. My name is _____. I am conducting a survey of recreation visitors to Corps of Engineer day use areas. We are interested in learning about your recreation experiences at the lake and day use area and would like to ask your attitudes and perceptions of how the lake is being managed. Would you be willing to take about 10 minutes to answer some questions." (If yes) "We are trying to get an honest assessment of the lake and day use facilities, so know that all your responses are confidential."

VISITATION QUESTIONS

"I'd first like to ask about how often and how you use the lake."

(J. Percy Priest/Harry S. Truman)

1. Is this your first visit to _____ Lake? __Yes __No
2. (If NO) How many years have you visited this lake? _____
3. Approximately how many visits have you made to this lake in the last twelve months? _____
4. Including yourself, how many people are with your party today? _____
5. What best describes your relationship with the members of your party?
 - __ a. family
 - __ b. friends
 - __ c. friends and family
 - __ d. alone
 - __ e. members of an organized group
 - __ f. other (please specify) _____

6. What was the main activity on this visit:

- | | |
|--|--|
| <input type="checkbox"/> a. swimming | <input type="checkbox"/> g. fishing from boat |
| <input type="checkbox"/> b. fishing from shore | <input type="checkbox"/> h. pleasure boating |
| <input type="checkbox"/> c. picnicking | <input type="checkbox"/> i. water skiing |
| <input type="checkbox"/> d. hiking | <input type="checkbox"/> j. sailing\wind surfing |
| <input type="checkbox"/> e. relaxing | <input type="checkbox"/> k. jet skiing |
| <input type="checkbox"/> f. sight seeing | <input type="checkbox"/> l. other (please specify) _____ |

7. What is the one way travel distance from your home to the lake? _____

8. Have you visited other lakes besides (J. Percy Priest/ Harry Truman), in the past twelve months where fees were charged?

_____Yes _____No

If YES, who operates the fee area?

- ☐ a. The Corps of Engineers
- ☐ b. Another public agency (State, County, or City Park, U.S. Forest Service, U.S. Park Service)
- ☐ c. Private concessionaire, such as KOA
- ☐ d. Don't know who manages

9. Are you an annual pass holder? _____Yes _____No

ATTITUDES AND PERCEPTIONS

"I'd like to find out about your recreation experiences at this day use area (beach, boat ramp) by asking you how strongly you agree or disagree to a series of statements. I'd like you to use the responses on this card." **(HAND RESPONSE CARD AND POINT OUT SA--SD RESPONSES)**

strongly agree	agree	no opinion	disagree	strongly disagree
(SA)	(A)	(NO)	(D)	(SD)

10. The facilities were clean. _____SA _____A _____NO _____D _____SD

11. The facilities were well maintained. _____SA _____A _____NO _____D _____SD

12. **(At Boat Ramps)**

There were adequate boat ramps
and launch lanes available.

_____SA _____A _____NO _____D _____SD

12. **(At Beaches)**

There were adequate facilities available such as picnic tables, restrooms, and playgrounds.

☐SA ☐A ☐NO ☐D ☐SD

13. There was adequate parking. ☐SA ☐A ☐NO ☐D ☐SD

14. I felt crowded by other visitors. ☐SA ☐A ☐NO ☐D ☐SD

15. The behavior of other visitors detracted from my recreation experience. ☐SA ☐A ☐NO ☐D ☐SD

16. I felt my personal belongings were safe and secure. ☐SA ☐A ☐NO ☐D ☐SD

17. This recreation area is very scenic. ☐SA ☐A ☐NO ☐D ☐SD

18. There are excellent wildlife viewing opportunities. ☐SA ☐A ☐NO ☐D ☐SD

19. Staff appeared to be available if any assistance was required. ☐SA ☐A ☐NO ☐D ☐SD

20. Lake information and regulations were well posted. ☐SA ☐A ☐NO ☐D ☐SD

21. Lake information and regulations were informative and easy to understand. ☐SA ☐A ☐NO ☐D ☐SD

"Now I'd like to ask your attitudes about the cost of recreating at _____ (J. Percy Priest/Harry S. Truman) and the day use fee program."

22. Travel costs and travel time are a very important factor in determining which recreation areas I visit. ☐SA ☐A ☐NO ☐D ☐SD

23. The amount of recreation fees are a very important factor in determining which recreation areas I visit. ☐SA ☐A ☐NO ☐D ☐SD

24. Charging recreation fees at day use areas helps provide the kind of recreation services that I prefer. ☐SA ☐A ☐NO ☐D ☐SD

25. If fees were not charged at this area I would visit:

- ☐ a. much more often
- ☐ b. slightly more often
- ☐ c. about the same
- ☐ d. slightly less
- ☐ e. much less

26. On a scale of 1 to 10, 1 being very poor and 10 being excellent, how would you rate the overall quality of your recreation visit today? 1 2 3 4 5 6 7 8 9 10

27. On a scale of 1 to 10, 1 being strongly opposed and 10 being strongly supportive, what is your level of support for the day use fee program? 1 2 3 4 5 6 7 8 9 10

"For the next two questions please refer to the response card and choose the letter that best describes your opinions to the following statements:"

28. How do you feel about this area?

- ☐ a. I would not go elsewhere in this region.
- ☐ b. I would go elsewhere, but I prefer this day use area.
- ☐ c. It makes no difference to me whether I use this day use area or another area.
- ☐ d. I would come here again, but I would prefer to go elsewhere.
- ☐ e. I would not come here again.

29. The money collected at day use areas should be:

- ☐ a. used to maintain or improve the day use area where the fee was collected.
- ☐ b. used to maintain or improve any day use area.
- ☐ c. used to maintain or improve any Corps recreation area (campground, scenic overlook).

- ☐ d. used to offset costs of any Corps of Engineers program, such as flood control.
- ☐ e. returned to the U.S. Treasury.
- ☐ f. Other _____

30. On what types of projects should (Lake Name) spend the money from day use fees? _____

DEMOGRAPHICS

"To finish up, I'd like to ask some questions about yourself so that the Corps of Engineers can get a better idea of who their customers are, so we can make more informed decisions to serve you better. Remember that all your responses are confidential. There is no possible way to connect your responses with you individually."

31. What is your ZIP CODE? _____

32. Including yourself, how many people live in your household? _____

33. Gender? ☐ F ☐ M

"Please reply with the appropriate letter from this response card."

34. What is your age?

- | | |
|--|--|
| <input type="checkbox"/> a. less than 20 years | <input type="checkbox"/> e. 40 to 49 years |
| <input type="checkbox"/> b. 20 to 29 years | <input type="checkbox"/> f. 50 to 59 years |
| <input type="checkbox"/> c. 30 to 39 years | <input type="checkbox"/> g. 60 or more years |

35. What is your highest level of education?

- ☐ a. eight years or less
- ☐ b. some high school
- ☐ c. high school graduate or equivalent
- ☐ d. some college or technical school
- ☐ e. bachelors degree or equivalent
- ☐ f. masters degree or equivalent
- ☐ g. advanced degree (M.D., PhD, etc.)

36. Which one of the following do you feel best describes your ethnic identification?

- ☐ a. Black or African American
- ☐ b. White, but not of Hispanic origin
- ☐ c. Hispanic American, latino, or other hispanic descent
- ☐ d. Asian American
- ☐ e. Native American or American Indian
- ☐ f. Other (please specify): _____

37. With respect to your current occupation, are you:

- ☐ a. working full time
- ☐ b. working part time
- ☐ c. semi-retired, working part time
- ☐ d. fully retired
- ☐ e. unpaid homemaker
- ☐ f. student
- ☐ g. not presently employed

38. What was your total gross household income for 1995?

- | | |
|--|--|
| <input type="checkbox"/> a. less than \$5,000 | <input type="checkbox"/> i. \$40,000 to \$44,999 |
| <input type="checkbox"/> b. \$5,000 to \$9,999 | <input type="checkbox"/> j. \$45,000 to \$49,999 |
| <input type="checkbox"/> c. \$10,000 to \$14,999 | <input type="checkbox"/> k. \$50,000 to \$59,999 |
| <input type="checkbox"/> d. \$15,000 to \$19,999 | <input type="checkbox"/> l. \$60,000 to \$69,999 |
| <input type="checkbox"/> e. \$20,000 to \$24,999 | <input type="checkbox"/> m. \$70,000 to \$79,999 |
| <input type="checkbox"/> f. \$25,000 to \$29,999 | <input type="checkbox"/> n. \$80,000 to \$89,999 |
| <input type="checkbox"/> g. \$30,000 to \$34,999 | <input type="checkbox"/> o. \$90,000 to \$99,999 |
| <input type="checkbox"/> h. \$35,000 to \$39,999 | <input type="checkbox"/> p. \$100,000 or more |

39. Do you have any questions or comments concerning the Corps of Engineers Day Use Fee Program?

"Thank you for participating in the survey."

Appendix B

Comments

Comments on Fee Program - Priest

"Support Fees"

SUPPORTS FEES AS LONG AS THEY STAY AT CURRENT
LEVEL
WISH THERE WERE MORE AREAS LIKE THIS ONE
SUPPORT FEES AS LONG AS USED TO MAINTAIN AREA
LOVES IT AT LAKE EVEN IF THEY DO CHARGE A FEE
SUPPORTS FEES AT CURRENT LEVELS
AREA HAS IMPROVED SINCE FEES HAVE BEEN CHARGED
SUPPORTS FEES TO MAINTAIN AREA. \$1 A PERSON
MAY BE 2 LOW
SUPPORT FEES AT CURRENT LEVELS
FEES ARE OKAY IF WE KNOW WHERE THEY ARE GOING
SUPPORT FEES AS LONG AS AREA IS WELL MAINTAINED
WHY CHARGE AT BOAT RAMPS? MORE SECURITY IF
CHARGED
CALL IT UPKEEP FEE INSTEAD OF USERS FEE
AGREE-\$ SHOULD BE USED FOR SPECIFIC AREA
COLLECTED
SUPPORT FEES AS LONG AS THE AREA IS MAINTAINED
WOULD SUPPORT FEES IF MORE AREAS WERE
DEVELOPED

"Oppose Fees"

FEECOM

DO NOT APPROVE OF FEES IN THIS AREA
STOP CHARGING FOR PUBLIC AREA

OPPOSES FEES AT AREA
CONCERNED THAT SOME PEOPLE CAN'T AFFORD THE
AREA
SHOULD NOT CHARGE FOR RECREATION FEES
DOES NOT APPROVE OF PAYING FEES
SHOULD NOT BE CHARGED FOR DAY USE
DOES NOT APPROVE OF FEES

"Double Taxation"

DOUBLE TAXATION
DOUBLE TAXATION
TAXES SHOULD SUPPORT THE AREA
TAXES SHOULD PAY FOR AREA, BUT \$ AMT. IS NOT BAD
DOUBLE TAXATION

"Concerns about Annual Passes"

ALLOW ANNUAL PASSES TO BE PURCHASED THROUGH
THE MAIL
ANNUAL PASS FOR SINGLE PEOPLE
ANNUAL PASS HOLDER SHOULD BE FOR ALL AREAS ON
PRIEST

"Implementation of Fee Program"

WHY ARE FEES CHARGED ONLY AT THIS AREA?
WHY ARE FEES CHARGED AT ANDERSON BOAT RAMP
& NO OTHERS?
FEES SHOULD BE CHARGED AT ALL RAMPS OR
NONE (NOT JUST 1)
DON'T UNDERSTAND WHY ANDERSON RD CHARGES
RAMP FEES?

"Suggestions for Operations and Management"

>SECURITY 4 DAY USE AREA; PAY PHONE REPLACED
AT ANDER. RD
MORE CONTROL OF JET SKIERS
BOAT SAFETY COURSE & STOP PEOPLE FROM LEAVING
TRASH
PICK UP GLASS & TRASH AROUND LAKE
FEELS THAT CAMPFIRE SHOULD BE ALLOWED AT
CAMPGROUND
MORE SUPERVISION\RANGERS, TRASH CLEAN UP,

PARK OPEN TIL 9
 ALCOHOL SHOULD BE ALLOWED IN BEACH AREA
 MORE SUPERVISION-COULD BE VOLUNTEERS
 MORE PICNIC TABLES NEEDED
 SHOWER TO RINSE OFF SAND\TOO MANY DOGS\MORE
 SUPERVISION
 KEEP BEACH AREA CLEANER\NEED MORE SUPERVISION
 SAND INSTEAD OF GRAVEL AT
 PLAYGROUND\CLEANER BEACH AREA
 MORE SUPERVISION AT CEDAR CREEK\PETS NEED TO
 BE REG
 TOO MUCH PROFANITY AROUND CHILDREN\PETS
 SHOULD BE ALLOW
 NEED LATER HOURS-9 PM IN WINTER & 11 PM IN
 SUMMER
 LIFEGUARD, MORE PATROLS (TOO MUCH PROFANITY)
 MORE PATROLLING; SHOULD HAVE ALCOHOL ON BEACH
 EXTEND SANDY BEACH
 MORE PARKING ESP. ON WEEKENDS
 AREA NEEDS TO BE CLEANER
 BETTER LAWN CARE NEEDED
 MORE SUPERVISION
 TOO MANY DOGS NOT ON LEASH & IN BEACH AREA
 MORE SUPERVISION NEEDED
 LIFEGUARD (MAYBE VOLUNTEERED?)
 WHY IS FEE LABELED A SWIM. FEE WHEN EVERYONE
 HAS TO PAY?
 MORE SUPERVISION NEEDED
 MORE SUPERVISION NEEDED
 NEED TO KEEP AREA CLEANER; ADD MORE TABLES AND
 GRILLS
 KEEP CLEANER/JET SKI & BOATS GET TOO CLOSE TO
 SWIM AREA
 SWIMMING AREA NEEDS CLEANING
 CROWDING IS BECOMING MORE OF A PROBLEM;
 EXPAND OR CREATE
 PARKING (WELL POSTED) FOR HANDICAP; TOO MUCH
 LOUD MUSIC
 MORE PATROLLING AND PLACES TO PARK
 LARGER BEACH AREA
 CLEAN BATHROOMS, > SUPERVISION & GATES; BEER
 BTLS ON SAND
 MORE SUPERVISION- PETS & ALCOHOL ON BEACH
 CONCESSIONS, MORE SECURITY & SUPERVISION
 CLEAN BATHROOMS & ADD PARKING SPACES

KEEP BATHROOM CLEANER
OLD HICKORY NEEDS LOTS OF WORK; ALLOW
ALCOHOL AT PICNIC
CLOSER BATHROOMS
CLOSER BATHROOMS
HAMILTON CREEK AREA SHOULD BE SWIMMING
AREA-NOT 4 BOATS
MORE SUPERVISION
BEACH UPKEEP
LIFEGUARD, H2O QUALITY TESTING/SKI-DOO AWAY
FROM SWIMMER
MONEY SPENT ON CLEANING, ESP. BATHROOMS
\$ SPENT TO KEEP IT CLEAN
CLEAN BATHROOMS, ADD WATER FOUNTAINS AND
CONCESSIONS
MORE SUPERVISION
WATER SAFETY RULES SHOULD BE POSTED (JET SKIS)
NEED ENHANCING WILDLIFE
NOT ENOUGH SERVICES FOR SMALL BOATS
PAY PHONES
LIFEGUARD SHOULD BE HERE
LARGER ADULT AREA-SHOULDN'T BE WORRIED
ABOUT SWIMSUITS
MORE SUPERVISION/RANGERS
WHY ISN'T OLD HERITAGE LANDING BEING USED?
CLEAN BATHROOMS/OPEN TO PUBLIC FOR FREE/MORE
RANGERS
MONEY SHOULD BE PUT TO MAKE IT CLEANER
IF FEES ARE CHARGED, LIFEGUARDS SHOULD BE
PROVIDED
JET SKIERS ARE INTRUSIVE AND SHOULD BE
MONITORED

"Other" Comments

ENJOY THE AREA
ENJOY THE AREA
ENJOY LAKE
THE WATER IS FUN!
ENJOY LAKE/KEEP IT CLEAN
I LIKE THE AREA
LOVELY PLACE
ENJOY AREA & IMPROVEMENTS TO ANDERSON RD
DAY USE AREA
ENJOY THE AREA

TENNESSEE HAS NICE PUBLIC FACILITIES
ENJOY THE LAKE
NICE AREA
VERY NICE FAMILY AREA
GREAT AREA
WE REALLY LIKE COMING HERE
NICE AREA
GREAT AREA
NICE CLEAN AREA
NICE FAMILY AREA
GREAT AREA
DELIGHTED WITH AREA
PLAN TO RETURN SOON
GREAT AREA
GREAT AREA
GREAT AREA
NICE AREA; MUCH BETTER THAN OLD HICKORY
ENJOY THE AREA
ENJOY THE AREA
GREAT AREA-PLAN TO RETURN SOON
LIKE THE AREA; NATURAL AREA WITH WILDLIFE
OPPORTUNITIES
APPRECIATE BEING SURVEYED
IT'S GREAT
NICE AREA
VERY NICE
NICE PLACE TO VISIT
CORPS IS DOING A GREAT JOB
AREA IS BETTER THAN IT USED TO BE
ENJOY THE AREA

Comments on Fee Program - Truman

"Support Fees"

SUPPORTS FEE PROGRAM AND LOVES TRUMAN LAKE
SUPPORTS PROGRAM AS LONG AS FEE IS REASONABLE
SUPPORTS PROGRAM IF MONEY GOES TO FACILITIES
FEE MONEY SHOULD BE USED LOCALLY TO UPGRADE
& MAINTAIN
APPROVES OF PROGRAM A.L.A. MONEY IS
REINVESTED IN AREA
SUPPORTS FEES IF USED TO MAINTAIN AREA

SUPPORT FEES A.L. AS MONEY IS REINVESTED IN THE
 AREA
 RIGGING & UNRIGGING AREA; VIS. NEED TO SEE
 WHERE \$ IS SPENT
 SUPPORT FEES AS LONG AS MONEY IS REINVESTED IN
 AREA
 LIKE TO SEE MONEY USED LOCALLY
 APPROVE OF PROGRAM AS LONG AS ANNUAL PASSES
 ARE OFFERED
 MAINTAIN PROGRAM AT CURRENT LEVELS
 LOVES T LAKE; APPROVES OF FEES ESP. IF
 REINVESTED N LAKE
 APPROVES OF FEES IF THEY GO BACK INTO FACILITY
 MONEY COLLECTED BY CORPS SHOULD BE USED FOR
 MAINTENANCE
 WILL PAY IF IT IMPROVES FACILITIES
 IT SHOULD NOT GO UP
 FAIR PROGRAM
 POST LAKE LEVEL AT MAJOR RAMPS; KEEP FEES IN AREA
 DON'T MIND AS LONG AS IT GOES BACK INTO THE LAKE
 SUPPORT FEES AT CURRENT LEVEL BUT NOT HIGHER
 SUPPORTS FEES AS LONG AS AREA IS WELL KEPT
 SUPPORTS FEES AS LONG AS \$ IS REINVESTED IN AREA
 SUPPORT FEES AS LONG AS AREA IS WELL MAINTAINED
 SUPPORT FEES AS LONG AS AREA IS WELL MAINTAINED
 SUPPORT FEES AS LONG AS \$ IS KEPT IN AREA
 SUPPORTS FEES AS LONG AS MONEY IS KEPT IN AREA
 SUPPORTS FEES AS LONG AS \$ IS REINVESTED IN AREA
 SUPPORTS FEES IF MONEY COMES BACK FOR UPKEEP OF
 AREA
 WOULD SUPPORT FEES IF FOR SURE THEY WENT
 BACUPPORTS FEES AS LONG AS \$ IS REINVESTED IN
 AREA
 SUPPORT FEES AS LONG AS AREA IS WELL MAINTAINED
 SUPPORT FEES AS LONG AS AREA IS WELL MAINTAINED
 SUPPORT FEES AS LONG AS \$ IS KEPT IN AREA
 SUPPORTS FEES AS LONG AS MONEY IS KEPT IN AREA 239
 SUPPORTS FEES AS LONG AS \$ IS REINVESTED IN AREA
 SUPPORTS FEES IF MONEY COMES BACK FOR UPKEEP OF
 AREA
 WOULD SUPPORT FEES IF FOR SURE THEY WENT BACK
 TO AREA

“Oppose Fees”

WHY FEES? THOUGHT \$ FROM FISHING LICENSES
WENT TO LAKE
NO-\$2 IS NOT MUCH
LOCAL RESIDENTS SHOULD NOT HAVE TO PAY FEE
FEES ARE TOO HIGH
LOCALS SHOULDN'T HAVE TO PAY
LOCALS SHOULD NOT HAVE TO PAY
OPPOSES CHARGING
STRONGLY OPPOSED. FAMILY WAS FORCED OUT OF
AREA FOR LAKE
AGAINST PAYING FEES
OPPOSES DAY USE FEES
GET RID OF FEES
LESS WASTE IN GOVERNMENT & USER FEES WOULDN'T
BE CHARGED
NO USER FEES
NOT IN FAVOR OF PAYING
NO FEES
STRONGLY OPPOSE FEES; FEE COLLECTION IS NOT
CONSISTENT
DOES NOT APPROVE
STRONGLY OPPOSED TO FEE PROGRAM
CONCERNED WITH OLDER PEOPLE BEING ABLE TO
AFFORD FEES
SHOULD NOT HAVE A FEE
HORRIBLE! SHOULDN'T BE A FEE
LOCALS SHOULDN'T HAVE TO PAY FOR AREA
IF GOV. WASTE WAS CONTROLLED FEES WOULDN'T
BE NECESSARY
OPPOSED TO FEES
DOES NOT SUPPORT FEES
SHOULD NOT HAVE TO PAY FEES
VERY STRONGLY OPPOSED TO FEES
VERY OPPOSED TO FEES
\$ COULD BE MANAGED BETTER; ST. PARKS DON'T
NEED NEW VEHICLE
FEES SHOULD NOT BE CHARGED 0

“Double Taxation”

DOUBLE TAXATION
DOUBLE TAXATION
ALL FEES SHOULD BE COLLECTED AT ONCE
DOUBLE TAXATION
TAXES SHOULD PAY FOR THE AREA

**DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
PAY ENOUGH TAXES
TAXES SHOULD PAY FOR AREA
DOUBLE TAXATION
IT'S HORRIBLE. TAXES SHOULD COVER EXPENSES
USER FEES ARE DOUBLE TAXATION
TAKE OF US & THE CORPS WOULD HAVE ENOUGH FUNDS
DOUBLE TAXATION
DOUBLE TAXATION
CORPS SHOULD TAKE MONEY GIVEN RATHER THAN CHARGING FEES
TAXES SHOULD COVER EXPENSES
DOUBLE TAXATION
DOESN'T MIND PAYING BUT FEELS LIKE DOUBLE TAXATION
CORPS SHOULD USE MONEY GIVEN TO KEEP UP AREA
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
GREAT LAKE BUT DOESN'T SUPPORT FEES; DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
DOUBLE TAXATION
OPPOSE FEES AND DOUBLE TAX
OPINION WAS VOICED ONCE BEFORE & IT DIDN'T HELP
OPPOSE FEE; \$ SHOULD B MADE FROM CONCESS. TO SUPPORT AREA**

“Concerns about Annual Passes”

ALLOW SEASON PASS STICKER TO BE PLACED ON WINDSHIELD

ANNUAL PASS SHOULD BE EASIER PARTICULARLY
THRU THE MAIL
ANNUAL PASS EASIER TO PURCHASE IN TACKLE
STORES & MARINA
ANNUAL PASS PURCHASE IS TOO DIFFICULT
TOO HARD TO GET ANNUAL PASS-SHOULD BE GOOD
AT CORP RESE
ANNUAL PASSES ARE INCONVENIENT TO GET
ANNUAL PASSES ARE INCONVENIENT TO GET
ANNUAL PASS NEED TO BE MORE AVAILABLE
ANNUAL PASSES HARD 2 GET; MAYBE PUT AT
MARINAS OR VIS CR
ONE YEAR STICKER FOR ALL LAKES
WORRIED ABOUT CROWDING & WHERE MONEY IS
BEING SPENT

"Implementation of Fee Policy"

ANNUAL PASS DIFFICULT TO PURCHASE
NOT CHECKED ALL OF THE TIME; DOUBLE TAXATION
FEE USE SHOULD BE VISIBLE OR STATED SOMEWHERE
IN AREA
PAYING BOAT LAUNCH FEES IS INCONVENIENT
LARGER SIGN AT ENTRANCE EXPLAINING FEES
FEES ARE A NUISANCE TO FISHERMAN; TRUMAN'S A
GREAT LAKE
FEES FINE 4 BOAT RAMPS-NOT 4 BEACHES-SOME
CAN'T AFFORD
IS LAUNCH PERMIT GOOD 4 OTHER AREAS ON LAKE 4
SAME DAY?
DOESN'T APPROVE OF MONEY GOING INTO GENERAL
FUND
MONEY COLLECTED AT PROJECT SHOULD STAY AT
PROJECT
SIGNS-ALL BOATERS PREPARE BOATS BEFORE ENTER
ING R. AREA
OUT OF STATE USERS SHOULD PAY FEES
AREAS SHOULD HAVE TO PAY EQUALLY, NOT JUST
CERTAIN ONES
USERS SHOULD PAY FOR UPKEEP RATHER THAN ALL
TAXPAYERS
PROGRAM IS NOT EFFECTIVE AT WND SR XNG &
TALLY BEND
EVERYONE SHOULD PAY
IF YOU PAY AT 1 AREA YOU SHOULD PAY AT ALL AREAS

NEED CONSISTENT FEES AT ALL LAUNCH AREAS
SUPPORTS REC FEES AND PAYING FOR WHAT YOU WANT

“Suggestions for Operations and Management”

STOCK BASS WFEE & KEEP FACILITIES OPEN LONGER IN
FALL
CLEAN AREA
DON'T LIKE RESERVATION SYSTEM AT CAMPGROUNDS
LIKE TO SEE ENFORCEMENT OF LITTERING LAWS
LARGE BASS BOATS ARE OFTEN VERY DISCOURTEOUS
CAMPGROUNDS SHOULD BE FIRST COME-NO
RESERVATIONS
RESERVATIONS AT CAMPGROUNDS SHOULD NOT BE
TAKEN
ENJOY THE AREA
SHOULD ALLOW ALCOHOL
SUPPORTS FEES; KEEP MONEY IN MAINTAINING
HEAVY RAMPS
MORE HIGH WATER RAMPS-TOO MUCH WATER
WINDSOR CROSSING, LANES EXTENDED, FISH
CLEANING STATIONS
PHONES AND LIFE SAVING EQUIPMENT NEEDED;
REMOVE SNAGS
CLEANER BATHROOMS
RAKE BEACH -TOO MUCH LITTER AND TOO ROCKY
SUPPORTS FEES BUT SHOULD HAVE LIFEGUARD
SHOULD HAVE LIFEGUARD SINCE FEES ARE CHARGED
COULD USE WORKERS FOR SHALLOW AREA
ALLOW ADD. VEHICLES AT CAMPGROUNDS WITH
MOTOR HOMES
PLANT WINDFLOWERS-NEEDED
TOURN. WEIGH INS SHOULDN'T BE HELD IN RAMP
PARKING LOTS
WAKE & SPEED REGULATIONS SHOULD BE IMPOSED &
ENFORCED
PHONES NEEDED
WALKWAYS
ALL DAY USE AREAS NEED SHELTER HOUSES

Comments on Spending Fee Revenues - Priest

"Bathrooms"

RESTROOMS CLOSER TO BEACH
CLOSE RRM,LGAURD, CNSESSIONS, H2O SLD
BIGGER PLAYGROUND & BETTER BATHROOMS
VOLLEYBALL COURTS, CLOSER BATHROOMS
WATER QUALITY, BATH HOUSES, >BEACHES
MORE PARKING AND BETTER BATHROOMS
MORE PARKING, GRILLS & CLOSER RRMS
WATER FOUNTAIN
MORE GRILLS AND CLOSER BATHROOMS
RESTROOMS CLOSER TO BEACH AREA
CLOSER BATHROOMS; MORE FOR KIDS
CLOSER BATHROOM
CLOSER BATHROOMS
MORE RESTROOMS
BATHRM, H2O FOUNTN, SEP. CHANGING RMS
BATHROOMS CLOSER TO BEACH
BATHRM, H2O FOUNTN, SEP. CHANGING RMS
CLOSER BATHROOM
CHANGING AREA
BATHROOMS CLOSER TO BEACH
CLOSER RESTROOM, PHONE, & LIFEGUARD
CLOSER BATHROOM, PHONE/MORE GRILLS
RESTROOMS CLOSER TO BEACH
CLOSER BATHROOM TO THE BEACH AREA
BATHROOMS CLOSER TO BEACH
CLOSER RROOMS; MORE TABLES & GRILLS
BATHROOM AT OTHER END
CLOSER BATHROOM
CLOSER RESTROOMS; DIVING BOARD/SLIDE
CLOSER RESTROOMS
BATHROOMS CLOSER TO BEACH AREA

"New Facilities"

MORE TABLES AT ANDERSON
REPLACE PHONE @ A.RD./MORE SECURITY
SHOWERS, PAY PHONES, H2O FAUCETS
MORE TABLES
PAY PHONE, PICK UP LITTER ESP. @NITE
DEV OTHER AREA 2 EASE WEEKEND PRESS
MORE PARKING, GRILLS & CLOSER RRMS

CLOSER BATHROOM, PHONE/MORE GRILLS
 SHOWERS, PAY PHONES, H2O FAUCETS
 SHOWER FACILITY/CLEANER BATHROOMS
 MORE PICNIC TABLES & GRILLS
 MORE PICNIC TABLES
 SHOWERS AT BEACH AREA
 WATER FOUNTAIN
 FLOATING DOCKS FOR SWIMMERS
 BEACHES FOR BOATERS ON ISLANDS
 MORE GRILLS
 MORE GRILLS
 BEACH AREA FOR JET SKI PARKING
 MORE GRILLS AND CLOSER BATHROOMS
 MORE PICNIC TABLES
 MORE GRILLS & EXPAND BEACH AREA
 SHOWER FACILITY
 WATER FOUNTAIN/RESTROOM
 MORE FISHING AREAS
 MORE GRILLS
 MORE AREAS SIMILAR TO AND. ON LAKE
 SHOWERS
 MORE GRILLS
 WATER FOUNTAIN
 WATER FOUNTAINS
 MORE TABLES AND GRILLS
 MORE PICNIC TABLES/GRILLS
 >PICNIC TBLS,GRILLS; FLOATING DECK
 >PICNIC TBLS/GRILLS; A FLOATNG DECK
 POSTS TO ANCHOR JET SKIS NEAR BEACH
 SEA DOO TIE OFF AT BEACH AREAS
 PUBLIC TELEPHONE, SODA MACHINES
 SHOWER FACILITY & CONCESSION STAND
 WILDLIFE ENHANCEMENT
 MORE AREAS LIKE ANDERSON RD
 EXPAND AREA
 HORSE SHOE PIT
 WATER SPIGOT (SPIKET)
 MORE PICNIC TABLES AND GRILLS
 A GRILL WITH EVERY PICNIC TABLE
 MORE GRILLS
 BATHRM, H2O FOUNTN, SEP. CHANGING RMS
 CLOSER RESTROOM, PHONE, & LIFEGUARD
 CLOSER BATHROOM, PHONE/MORE GRILLS
 KEEP BATHRMS CLEAN! GRILLS & LIFEGRD
 CONCESSION STAND/SHOWER

CONCESSION, GRILLS, SLIDE OR D. BOARD
LARGER PLAYGROUND & PICNIC AREA
SHOWER FACILITY\CONCESSION
MORE PARKING, TABLES, & PATROLLING
MORE PARKING, PICNIC TABLES & GRILLS
MORE BEACHES, SAND & PAY PHONE
PAY PHONES & LIFEGUARDS
SHOWERS, PAY PHONES, H2O FAUCETS
>PICNIC TBLS, GRILLS; FLOATING DECK
>PICNIC TBLS/GRILLS; A FLOATNG DECK

“Ramps”

MORE PARKING/BOAT LANES ON RAMO
WASH OFF AREA
MORE PARKING/LARGER BOAT RAMPS
MORE PARKING & ANOTHER RAMP
BETTER BOAT RAMPS & COURTESY DOCKS

“Operations”

MORE SECURITY PATROLS FOR ALCOHOL
MORE PARKING, TABLES, & PATROLLING
SIGNS AT BATHROOMS/PATROL AREAS
SECURITY PATROLS
EXTEND REC SEASON/ELEC. HOOK UPS
PATROL FOR ALCOHOL; ROWDY PEOPLE
MORE PATROLS OF AREA
MORE BOATER PATROLS
MORE SUPERVISION
MORE SECURITY PATROLS
MORE SUPERVISION
PATROL JET SKIERS MORE CLOSELY
MONITOR BOAT TRAFFIC
FULL TIME SECURITY PATROLS
MONITOR JET SKIS/MORE PATROL
MORE EQUIPMENT FOR HANDICAP
REMOVING STUMPS FROM LAKE
A. RD. CAMP - BETTER MAINTAINED
EDUCATIONAL INFO ON LAKE SCHOOLS
REPLACE PHONE @ A.RD./MORE SECURITY

"Docks"

DOCK AT COOK AREA
DOCK NEAR SWIMMING AREA
>PICNIC TBLS,GRILLS; FLOATING DECK
>PICNIC TBLS/GRILLS; A FLOATNG DECK
>PATROLLING OF BOATERS/JET SKIERS
MORE DOCKS TO TIE BOATS UP & COVERS
BOAT DOCK CLOSE TO BEACH AREA
BETTER BOAT RAMPS & COURTESY DOCKS
>SWIM. BEACHES/BOAT DOCK AT BEACH
MORE PARKING/LARGER BOAT RAMPS
MORE PARKING & ANOTHER RAMP
LIFEGUARDS AND PARKING
MORE BEACH AREA AND PARKING
LARGER BEACH AND MORE PARKING

"Roads, Paving and Parking"

MORE PARKING, TABLES, & PATROLLING
MORE PARK/BEACH AREA FOR BOATS
EXPAND PARKING AREA FOR WEEKEND
POT HOLE ON RAMP/TRASH IN LAKE
MORE PARKING
MORE PARKING, PICNIC TABLES & GRILLS
BOAT PARKING NEAR BEACH
BOAT PARKING NEAR BEACH
MORE PARKING AND BETTER BATHROOMS
MORE PARKING AT BOAT RAMP
MORE PARKING
JET SKI PARKING
NEED MORE PARKING
ADD PARKING SPACES @ AND. RD. BT. DOCK
MORE PARKING/BOAT LANES ON RAMP
MORE PARKING; BETTER PLAYGROUNDS
MORE PARKING, GRILLS & CLOSER RRMS.
EXPAND PARK. LOT & BEACH AREA
MORE PARKING SPACES
NEED MORE PARKING
MORE SIDEWALKS FROM PARKING 2 BEACH

"Playground and Children's Facilities"

GAME OR BALL PARK AREAS
PADDLE BOAT RENTALS & SAILBOAT

VOLLEYBALL COURT
 VOLLEY BALL NETS
 SNACKBAR, WOOD CHIP TO SAND ON PLAYG
 SAND VOLLEY BALL COURT
 CONCESSION STAND
 SPORTS, BASK-BALL, SAND V-BALL COURTS
 HERMITAGE LANDING-GO BACK TO PUBLIC
 BOAT RENTALS
 MORE VOLLEYBALL COURTS & SPORTS
 MACHINE-CONCESSION STAND
 SAND VOLLEYBALL COURT/HORSESHOE PIT
 BIGGER PLAYGROUND& BETTER BATHROOMS
 SAND VOLLEYBALL
 CONCESSION STAND/SHOWER
 CONCESSION, GRILLS, SLIDE OR D. BOARD
 MORE PICNIC TABLES & GRILLS
 CONCESSION STAND NEEDED
 PLAY AREA FOR CHILDREN
 CONCESSION STAND
 VOLLEYBALL COURTS, CLOSER BATHROOMS
 SAND VOLLEYBALL
 SAND VOLLEYBALL COURTS
 LARGER PLAYGROUND & PICNIC AREA
 CONCESSION STAND/CAMPING FEES EXCESSIV
 MORE PLAYGROUNDS AT OTHER REC AREAS
 SHOWER FACILITY\CONCESSION
 EXPAND PLAYGROUND AT COOK
 CONCESSION STAND
 CONCESSION STAND NEEDED
 VENDING MACHINES
 PADDLE BOATS, BOAT RENTALS, SHELTER A
 MORE REC OPPORTUNITIES FOR CHILDREN
 BASKETBALL COURT
 MORE PLAYGROUNDS
 REC. STUFF; VOLLEYBALL, TENNIS, BBALL
 >PLAYGROUND ACTIVITIES 4 TODDLERS
 CONCESSION STAND
 BOAT RENTAL
 CLOSE RRM, LGAURD, CNSESSIONS, H2O SLD
 CLOSER BATHROOMS; MORE FOR KIDS
 MORE PARKING; BETTER PLAYGROUNDS
 SHOWER FACILITY & CONCESSION STAND
 MORE BEACHES, SAND & PAY PHONE
 SLIDES IN H2O; FLOATING DIVING BOARD
 MORE SWIMMING AREAS

MORE SWIMMING AREAS
 EXTEND BEACH AREA 4 JET SKI DOCKING
 EXTEND SWIMMING AREA
 CLOSER RESTROOMS; DIVING BOARD/SLIDE
 SNACKBAR, WOOD CHIP TO SAND ON PLAYG
 CLEAN UP BEACH & WATER QUALITY
 MORE PARK/BEACH AREA FOR BOATS
 EXPAND PARK. LOT & BEACH AREA
 MORE GRILLS & EXPAND BEACH AREA
 >SWIM. BEACHES/BOAT DOCK AT BEACH
 WATER QUALITY, BATH HOUSES, >BEACHES
 CLOSE RRM, LGAURD, CNSESSIONS, H2O SLD
 CLOSER RESTROOM, PHONE, & LIFEGUARD
 KEEP BATHRMS CLEAN! GRILLS & LIFEGRD
 CONCESSION, GRILLS, SLIDE OR D. BOARD
 SANDERS BOAT DOCK & MARINA
 LIFEGUARDS
 MORE SUPERVISION\LIFEGUARDS
 SLIDE AND DIVING BOARD
 BEACH AREA 4 JET SKI & BOATS TO DOCK
 DIVING BOARD/EXPAND BEACH AREA
 LIFEGUARDS AND PARKING
 LIFEGUARD
 WATER SLIDE
 MORE BEACH AREA AND PARKING
 LIFEGUARD
 PAY PHONES & LIFEGUARDS
 MORE SANDY BEACHES ON RESERVOIR
 LIFEGUARD
 LARGER SANDY BEACH
 LIFEGUARD & LIFE SAVING EQUIPMENT
 LARGER BEACH AREA
 WATER SLIDE
 LARGER BEACH AND MORE PARKING
 MORE BEACH DEV TO AVOID CROWDING
 EXTEND SWIMMING AREA
 MORE SAND AT BEACH; PARK BENCHES
 LIFEGUARDS NEEDED

“Campgrounds”

CAMPGROUNDS NEAR ANDERSON (NEW)

"Maintenance"

MORE MONEY FOR CLEANING
CLEANLINESS; TRASH PICKUP
MAINTENANCE
CLEAN UP VIS CENTER AREA
KEEP FACILITIES CLEAN & MAINTAINED
MAINTENANCE OF AREAS
UPKEEP & MAINTENANCE
CHECK ON BATHROOMS OFTEN EACH DAY
BETTER MAINTENANCE ON RESTROOMS
FIX SHOWERS
CLEAN BATHROOM MORE THAN ONCE A DAY
MAINTENANCE
KEEP AREA CLEAN/GOOD ENV. 4 FAMILIE
KEEP BATHROOMS CLEANER
PAY PHONE, PICK UP LITTER ESP. @NITE
SHOWER FACILITY/CLEANER BATHROOMS
KEEP BATHRMS CLEAN! GRILLS &LIFEGRD
KEEP AREA & RESTROOMS CLEAN
MOW LAWNS
KEEP AREA CLEAN; MOW THE GRASS
MORE TRASH PICKUP DURING THE SUMMER
MORE MONEY FOR CLEANING AREA
FIX UP AREA BY DAM/PICK UP TRASH
CLEAN CAMPGROUND

"Natural Resource Conservation"

GROUP CONSERVATION PROJECTS AT AREA

"Water Quality/Water Management Concerns"

QUALITY, BATH HOUSES, >BEACHES
SAND VOLLEY BALL
MONITOR & CONTROL JET SKIERS
KEEP JET SKIERS AWAY FROM FISHERMAN
CLEAN UP BEACH & WATER QUALITY
MORE MONEY FOR H2O QUALITY

"Sport Fisheries Management"

FISH STOCKING
FISH STOCKING

Comments on Spending of Fee Revenues -Truman

"Bathrooms"

FLUSH TOILETS
BETTER BATHROOMS
CLEAN RESTRMS, PLAYGROUNDS, H2O SLIDE
FLUSH TOIL./BOATERS TAKE SAFETY COU
RETURN RESTRMS TO < DEVELOPED AREAS
RESTROOMS AND ADD RAMPS
2ND BATHHOUSE AT LS CAMPGROUND
FLUSH TOILETS
SOAP & H2O, CLEAN RROOMS, FISH CLEANING
BETTER BATHROOM FACILITIES

"New Facilities"

MAINTAIN AREA-WILDLIFE AREAS (\$\$)
MORE HUNTING
MORE HUNTING
MORE SHADED PICNIC TABLES
MORE PICNIC TABLES WITH SHADE
MORE WATER HYDRANTS FOR CAMPERS
PICNIC TABLES CLOSE TO H2O; V-BALL
MORE PICNIC TABLES, V-BALL, & PHONES
PICNIC TABLES, ATTEND. GATE, & PHONE
MORE PICNIC TABLES
>SHOWERS AVAILABLE; CLOSE TRASH CANS
PAY PHONE NEEDED
PICNIC TABLES CLOSER TO BEACH
COLDER WATER FOUNTAIN & > THAN ONE
MORE PICNIC TABLES
DEER GARDEN
WILDLIFE HUNTING AREA
WILDLIFE AREAS
PICNIC FACILITIES FOR BOATERS
MORE PATROL & PICNIC TABLES W/SHADE

"Ramps"

MAINTAIN RAMPS; KEEP DOCKS IN WATER
>H2O RAMPS, BETTER RROOM, DOCKS N H2O
UPGRADE RAMPS; MORE LANES & PARKING
RAMPS AND DOCKS
RAMP AND DOCK IN MIDDLE

EXPAND ANOTHER LAUNCH
MORE PARKING AND LANES
>RAMPS & PATROL (TOO MUCH DRINKING)
NEED ONE BT RAMP FOR BASS TOURNEYS
MORE BOAT RAMPS
RAMPS

“Operations”

MOVE RESERVED CAMPNG FROM TALBOT PT
WATERFOWL ENHANCEMENT PROGRAM
MAPS, HOURS STATED ON REGS
EXPAND CAMPING
LAKE REPORT OF H2O CONDITION ON BRD
FLAG RULE NOT FOLLOWED; MORE SUPERV.
SHADE AREAS; CHILD HANDICAP SWIMMING
1 WAY SIGNS AT BOAT RAMP
GATE OR SELF PAY STA. -EASIER TO SEE
MAINTENANCE OF CAMPGROUNDS
MORE HANDICAP PARKING/TABLES & GRILLS
ATTENDED GATES NEEDED WITH AIR COND
ATTENDANT AT FEE AREA; PICNIC TABLES
HOURLY RANGER PATROLS; CONCESS. STAND

“High Water Facilities”

HIGH H2O RAMPS
HIGH H2O RAMPS
>H2O RAMPS; MORE SWIM. BEACH W/BOATS
MORE HIGH WATER RAMPS
HIGH WATER RAMPS
HIGH H2O RAMP AT LONG SHOAL
HIGH WATER FACILITIES
HIGH WATER RAMPS
HIGH WATER RAMPS
HIGH WATER RAMP AT LONG SHOAL
HIGH WATER RAMPS
MORE HIGH WATER RAMPS
COURT. DOCKS MAINTAINED TO H2O LEVEL
HIGH H2O RAMP; FLUSH TOILETS
HIGH WATER RAMPS
BUILD RAMP AREAS & RRMS 4 FLOODS

"Docks"

COURTESY DOCKS
DOCK BUMPER IS WORN, POST FISH REG.
MORE MARINAS
EXTRA COURTESY DOCKS ON RIGHT
COURTESY DOCK FOR SINGLE USERS
TIE UP DOCK-FOR THOSE USING BATHRM
ANOTHER COURT. DOCK @ LONG SHOAL
TIE DOWN FOR SINGLE OPERATORS
IMPROVE & EXPAND COURTESY DOCKS

"Roads, Paving, and Parking"

YELLOW 4 LANES, LIGHTS, RAMPS, & DOCKS
MORE PARKING
ADD PARKING
BLACK TOP ROADS IN RV PARK
EXPAND LS PARKING & BOAT RAMPS
MORE PARKING, RAMPS, & UPKEEP OF ROAD
MORE PARKING AT LONG SHOAL
PAVE LOTS-WNDSR XNG/FRFIELD; FISH CL

"Playground and Children's Facilities"

CONCESSION STAND
KIDS AREA, H2O PARKS, SHELTER 4 BOATS
BETTER FACILITIES
CONCESSIONS
PLAYGROUND
CONCESSION STAND AND VENDING MACH.
CONCESSION STAND
UMBRELLA RENTAL FOR SHADE
MORE RECREATION FOR KIDS

"Beaches"

MORE BEACHES-MAYBE AT CAMPGROUNDS
WIDER BEACH
WIDER SAND BEACH; LARGER SWIM. AREA
LARGER BEACH
MORE BEACHES LIKE SB
EXTEND SWIMMING AREA
EXPAND SWIMMING BEACH AREAS
MORE SWIMMING AREA OUT

EXPAND SWIM AREA
ADDITIONAL BEACHES; MORE PARKING

“Campgrounds”

CAMPGROUNDS
MORE CAMPING WITH ELECTRIC

“Lights”

LIGHTS AT RAMPS, >H2O RAMPS, & DOCKS
MORE LIGHTS
NIGHT LITES AT BOAT RAMPS
MORE LIGHTS, MAINTAIN LOADING DOCKS

”Maintenance”

MAINTENANCE
UPKEEP OF LAND BT CAMP & LAKE SHORE
MAINTENANCE
MAINTENANCE
MAINTENANCE
KEEP UP AREA BETTER-CUT GRASS
MORE TRASH PICKUP
MORE TRASH CANS; RECYCLING AVAILABLE
MORE TRASH PICKUP
TRASH CANS, PHONE, MORE SUPERVISION
MORE MONEY ON UPKEEP
MAINTAIN AND EXPAND
MAINTENANCE
TOILETS SMELL
TOILETS SMELL
MAINTAIN AREA

“Rehabilitation of Facilities”

REHAB WNDSR XNG >ELEC. & RAMPS
LAKE IMPROVEMENT
FIX WINDSOR CROSSING
BETTER FAC. & LIGHTS IN PARKING AREA
MODERN FACILITIES
WINDSOR CROSSING NEEDS IMPROVEMENT

“Natural Resource Conservation”

SHELTER TO SHADE/PICNIC AREA
SEA WALL FOR WIND PROTECTION
REPLANT TREES (H2O OAKS)
SHADE TREES
>BURNING OF UNDRBRUSH ON CORPS LAND
CONSERVATION
MORE SHADE; COVERED PICNIC TABLES
SHADE COVER

“Water Quality/Water Management Concerns”

CLEAN LAKE
REMOVE DEAD TREES; BUILD MORE LAKES
TOO MANY JET SKIERS GOING TOO FAST
CLEAR TREES FROM WATER
RAMP NEEDS TO BE MORE VISIBLE
MONITOR JET SKIERS
IMPROVE MARKERS
PERSONAL H2O CRAFT OPERATOR-DANGER
MORE SUPERVISION OF H2O COURT. RULES
CLEAN UP TREES FLOATING IN LAKE
TAKE DEAD TREES OUT
IMPROVE POINT MARKERS

“Sport Fisheries Management”

>LENGTH LIMIT ON CRAPPIE TO 10"
FISH HABITAT
MORE STOCKING
FISH CLEANING STATION
RESTOCKING LAKE; RAMPS ON TABLE ROCK
BETTER SPAWNING SEASONS
STOCKING
FISH CLEANING STATION
STOCKING
FISH CLEANING STATION AT BOAT RAMP
FISH HABITAT
MORE STOCKING OF FISH
POST CREEL LIMITS & SPEC. LAKE REG.
FISH CLEANING STATIONS
SIGNS FOR FISHING LIMITS & REGS
STOCKING PROGRAM
HIGH WATER BOAT RAMP AT LS

FISH CLEANING STATION
GRASS COVER FOR FISH HABITAT
IMPROVE FISHERY-STOCKING & HABITAT
FISH CLEANING STATION
FISH HABITAT, LOW H2O BUOYS

“Other”

PERSONNEL BELOW DAM WAS VERY RUDE
MORE CHRISTMAS LIGHTS
\$ BOXES CLOSER TO RAMPS, RUNNING H2O

Appendix C

Synopsis of Multinomial Probit Model¹

To avoid the problem arising from the assumption of independence of irrelevant alternatives, one may abandon the multinomial legit model in favor of the multinomial probit model. In this model, the probabilities are generated from a multivariate normal distribution and are interdependent. Unfortunately, the model is very difficult—and expensive—to estimate. The situation is much more manageable when the choice categories can be ordered as, for instance, in the case of attitudes to a proposition or an issue (“strongly approve,” “approve,” “indifferent,” “disapprove,” and “strongly disapprove”). The multinomial ordered probit model is based on the presumption of the existence of the relationship

$$Y_i^* = \alpha + \beta X_i + \epsilon_i$$

where Y_i^* is an unobservable variable, $\epsilon_i \sim N(0, 1)$, and ϵ_i and $\epsilon_j (i \neq j)$ are independent. It is assumed that Y_i^* is related to the observable alternative categories of choice as follows:

$$\begin{aligned} Y_i &= 1 \quad \text{if } Y_i^* < 0 \\ &= 2 \quad \text{if } 0 \leq Y_i^* < A_1 \\ &= 3 \quad \text{if } A_1 \leq Y_i^* < A_2 \\ &= M \quad \text{if } A_{M-2} \leq Y_i^* \end{aligned}$$

Then one can specify the following probabilities:

¹ Taken from the following: Kmenta, J. (1991). *Elements of econometrics*. Macmillan, New York.

$$P(Y_i = 1) = F(-\alpha - \beta X_i)$$

$$P(Y_i = 2) = F(A_1 - \alpha - \beta X_i) - F(-\alpha - \beta X_i)$$

$$P(Y_i = 3) = F(A_2 - \alpha - \beta X_i) - F(A_1 - \alpha - \beta X_i)$$

$$P(Y_i = M) = 1 - F(A_{M-2} - \alpha - \beta X_i)$$

where $F(\cdot)$ is the cumulative distribution function of a standard normal variable. Maximum likelihood estimates of α , B , A_1 , A_2 , ..., A_{M-2} can be obtained from the appropriate log-likelihood function without much difficulty.

Appendix D

Factor Analysis Matrices

Factor Analysis Matrices					
Variable	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Truman Lake Model					
BEHAV	-0.09818	-0.00240	0.79990 ¹	0.13477	-0.13458
CLEAN	0.79249 ¹	-0.06043	-0.13388	0.16877	0.02735
CROWD	0.00776	-0.09497	0.83037 ¹	-0.14778	0.06256
FACIL	0.24042	0.76448 ¹	0.06737	0.04879	0.23412
MNTAIN	0.80455 ¹	0.30095	0.05179	0.07592	0.04649
PARK	-0.01334	0.82337 ¹	-0.16277	0.06407	-0.11334
REGS	-0.23376	0.34411	-0.02596	0.21309	0.62471
SAVE	0.04303	0.05352	-0.03430	0.71563 ¹	-0.21000
SCENIC	0.23716	0.15776	-0.03245	0.62490 ¹	0.16160
STAFF	0.37157	-0.07906	-0.11259	-0.14222	0.69322 ¹
WDLF	-0.01574	-0.10263	0.09276	0.58422 ¹	0.44872
Priest Lake Model					
BEHAV	-0.04636	-0.04813	0.05063	0.67539 ¹	
CLEAN	0.83151 ¹	0.20878	0.07279	-0.00624	
CROWD	0.01414	0.09184	0.2798	0.77402 ¹	
FACIL	0.38350	0.17066	0.47462 ¹	-0.19399	
MNTAIN	0.86278 ¹	-0.06489	0.09046	-0.02268	
PARK	0.05766	0.14375	0.57668 ¹	-0.41581	
REGS	-0.02675	0.61905 ¹	0.06178	0.16753	
SAVE	0.22808	0.64957 ¹	0.11100	9.09199	
SCENIC	0.33606	0.24861	0.53021 ¹	0.25725	
STAFF	0.02595	0.69771 ¹	0.01058	-0.07514	
WDLF	-0.03582	-0.08553	0.75268 ¹	0.23491	
¹ Dominant variables in the factor scores.					

Truman Model 1				
Fee Support, including FEEPRO variable				
Ordered Probit Model				
Maximum Likelihood Estimates				
Chi-Square (9)	.....	264.4857		
Significance Level	.....	0.0000000		
Log Likelihood	.....	-464.1238		
Restricted (Slopes = 0)	.....	-596.3667		
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	-2.3112	0.3569	-6.475	0.0000
CSTIMP	0.13132	0.6463E-01	2.032	0.04216
FEEIMP	-0.20641	0.6626E-01	-3.115	0.00184
FEEPRO	0.86097	0.557E-01	15.458	0.0000
QUALITY	0.98771E-01	0.3855E-01	2.562	0.01040
GENDER	-0.23474	0.1489	-1.577	0.11479
OTRLKS	0.21755	0.1243	1.75	0.08005
YRSVST	-0.12606E-01	0.9981E-02	-1.263	0.20661
Factor 1	0.88271E-01	0.6611E-01	1.335	0.18181
Factor 3	-0.9629E-01	0.7365E-01	-1.307	0.19105

Truman Model 2				
Fee Support, including FEEPRO variable				
Maximum Likelihood Estimates				
Chi-Square (9)	.....	87.25893		
Significance Level	.....	0.1000000E-06		
Log-Likelihood	.....	-552.7372		
Restricted (Slopes = 0)	.....	-596.3667		
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	-0.15030	0.4151	-0.362	0.71732
CSTIMP	0.12100	0.5629E-01	2.150	0.03158
FEEIMP	-0.27963	0.5421E-01	-5.158	0.00000
QUALITY	0.16322	0.3503E-01	4.659	0.00000
YRSVST	-0.34012E-01	0.9136E-02	-3.723	0.00020
Factor 2	0.14611	0.5680E-01	2.572	0.01010
Factor 3	-0.13793	0.6211E-01	-2.221	0.02637
AREAFEL	0.98934	0.7651E-01	1.293	0.19597
OTRLKS	0.17972	0.1177	1.527	0.12683
Factor 1	0.13515	0.6213E-01	2.175	0.02962

Truman Model 3				
Fee Support-Visitor Experiences and Demographics Ordered Probit Model Maximum Likelihood Estimation				
Chi-Square (9)	.....	66.71111		
Significance Level	.....	0.100000E-06		
Log-Likelihood	.....	-563.0111		
Restriction (Slopes = 0)	.....	-596.3667		
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	-0.11802	0.3944	-0.299	0.76475
AGE	0.92042	0.4822E-02	1.909	0.05631
OTRLKS	0.25156	0.1224	2.054	0.03993
QUALITY	0.15824	0.3457E-01	4.577	0.0000
YRSVST	-0.37415E-01	0.9284E-02	-4.030	0.00006
Factor 1	0.14413	0.6008E-01	2.399	0.01645
Factor 2	0.14469	0.5612E-01	2.578	0.00993
Factor 3	-0.13443	0.6010E-01	-2.237	0.02531
BOAT	-0.27052	0.1601	-1.690	0.09103
Factor 5	0.56818E-01	0.5596E-01	1.015	0.30994

Truman Model 4				
Recreation Quality Ordered Probit Model Maximum Likelihood Estimates				
Chi-Square (8)	.....	85.91844		
Significance Level	.....	0.100000E-06		
Log-Likelihood	.....	-611.1156		
Restricted (Slopes = 0)	.....	-654.0748		
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	1.7267	0.6117	2.823	0.00476
AREAFEL	0.26235	0.8238E-01	3.185	0.00145
BOAT	-0.33439	0.1755	-1.906	0.05669
FEEPRO	0.17693	0.4867E-01	3.635	0.00028
PTYSZ	0.11813	0.3750E-01	3.150	0.00163
Factor 5	0.25242	0.6955E-01	3.629	0.00028
Factor 1	0.63796E-01	0.5060E-01	1.261	0.20743
CSTIMP	-0.73199E-01	0.5330E-01	-1.373	0.16961
ANNPAS	0.19050	0.1263	1.509	0.13133
CSTIMP	-0.73199E-01	0.533E-01	-1.373	0.16961

Priest Model 1				
Fee Support, including FEEPRO variable Ordered Probit Model Maximum Likelihood Estimates Chi-Square (8) 154.3635 Significance Level 0.0000000 Log-Likelihood -416.3456 Restricted (Slopes = 0) -493.5273				
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	-3.0231	0.5350	-5.651	0.00000
AREAFEL	0.23253	0.8445E-01	2.754	0.00589
FEEIMP	-0.16741	0.6015E-01	-2.783	0.00538
FEEPRO	0.78898	0.8953E-01	8.813	0.00000
GENDER	0.25659	0.1245	2.061	0.03930
QUALITY	0.22040	0.4983E-01	4.423	0.00001
OTRLKS	0.23188	0.1345	1.724	0.08469
PTYSZ	-0.29374E-01	0.1992E-01	-1.474	0.14039

Priest Model 2				
Fee Support, including FEEPRO variable Maximum Likelihood Estimates Chi-Square (9) 78.10957 Significance Level 0.1000000E-06 Log-Likelihood -450.3906 Restricted (Slopes = 0) -489.4454				
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	-0.30175	0.5860	-0.515	0.60661
AREAFEL	0.30369	0.8179E-01	3.713	0.00020
FEEIMP	-0.16764	0.5706E-01	-2.938	0.00330
GENDER	0.26448	0.1242	2.129	0.03322
QUALITY	0.25720	0.5068E-01	5.075	0.00000
YRSVST	-0.20918E-01	0.8528E-01	-2.453	0.01418
MONEY	-0.11674	0.8638E-01	-1.352	0.17653
OTRLKS	0.20428	0.1315	1.554	0.12030

Priest Model 3				
Fee Support-Visitor Experiences and Demographics Ordered Probit Model Maximum Likelihood Estimated Chi-Square (7) 67.86377 Significance Level 0.100000E-06 Log-Likelihood -456.1655 Restricted (Slopes = 0) -490.0974				
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	-0.78556	0.5576	-1.409	0.15891
AREAFEL	0.31160	0.8100E-01	3.847	0.00012
QUALITY	0.25154	0.4963E-01	5.069	0.00000
YRSVST	-0.19472E-01	0.8236	-2.364	0.01807
GENDER	0.22644	0.122	1.856	0.06347
MONEY	-0.13235	0.8408E-01	-1.574	0.11546
OTRLKS	0.23150	0.1291	1.793	0.07296
Factor 3	0.92783E-01	0.659E-01	1.408	0.15915

Priest Model 4				
Recreation Quality Ordered Probit Model Maximum Likelihood Estimates Chi-Square (9) 96.35463 Significance Level 0.100000E-06 Log-Likelihood -509.7443 Restricted (Slopes = 0) -557.9216				
Variable	Coefficient	Std. Error	t-ratio	Probability |t| ≥ x
CONSTANT	1.3455	0.6828	1.971	0.04877
AREAFEL	0.21570	0.8828E-01	2.443	0.01455
FEEPRO	0.18521	0.7772E-01	2.383	0.01717
Factor 1	0.25410	0.6920E-01	3.672	0.00024
Factor 2	0.26253	0.6764E-01	3.882	0.00010
Factor 3	0.19985	0.6802E-01	2.938	0.00330
Factor 4	-0.17401	0.5597E-01	-3.109	0.00188
AGE	0.11211E-01	0.5329E-02	2.104	0.03539
CSTIMP	-0.83812E-01	0.5609E-02	-1.494	0.13510
GENDER	0.18792	0.1202	1.564	0.11786

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Avenue Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE May 1997	3. REPORT TYPE AND DATES COVERED Final report	
4. TITLE AND SUBTITLE Evaluation of Effects of Implementing Day-Use Fees at Corps of Engineers Recreation Areas			5. FUNDING NUMBERS	
6. AUTHOR(S) David E. Calkin, Jim E. Henderson				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) School of Forestry, University of Montana, Missoula, MT 59812; U.S. Army Engineer Waterways Experiment Station, 3909 Halls Ferry Road, Vicksburg, MS 39180-6199			8. PERFORMING ORGANIZATION REPORT NUMBER Technical Report R-97-1	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army Corps of Engineers Washington, DC 20314-1000			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES Available from National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) <p>In 1994, the Corps of Engineers began implementing a day-use fee program (swimming beaches and boat ramps) at previously free Corps of Engineers recreation areas. Historically, there were concerns on the effects of fees on the visitor use, e.g., reduce number of Corps visits or displacement to other recreation sites and opposition to fees by the public. Potential changes in recreation behavior if fees were implemented and attitudes about fees were determined in a 1993 survey prior to the charging of fees; the 1993 survey findings were compared with the 1996 survey to determine the effects of fees. In 1996, surveys were conducted at J. Percy Priest Lake, Nashville, TN, and Harry S. Truman Lake, Warsaw, MO. Visitors at both lakes expressed strong opposition to fees in 1993. Charging fees did not cause visitors to stop using Corps reservoirs; visitation increased at the two lakes and nationwide. Opposition to fees had changed at Priest to strong support (mean of 7.71 out of 10 (strong support)). At Truman, equal numbers of visitors strongly supported and strongly opposed the fee program. A factor analysis identified project characteristics, e.g., facility cleanliness, that contribute to visitors' support of the fee program and that can be controlled by project management.</p>				
14. SUBJECT TERMS Corps of Engineers Day-use recreation Recreation fees			15. NUMBER OF PAGES 101	
User fees Water-resources development Water-resources recreation			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT UNCLASSIFIED	18. SECURITY CLASSIFICATION OF THIS PAGE UNCLASSIFIED	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	